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ABSTRACT

This driver education curriculum for secondary students contains three learning activity packages (LAPs). The first LAP provides an overview and orientation to the course. The second LAP covers the basic control procedures for driving a car. The third LAP covers several tasks involved in normal driving, including observing, communicating, controlling speed, and positioning. Finally, the fourth LAP covers procedures needed when driving a car under certain environmental factors. These factors inlcude limited traction, limited visibility, night driving, and car/driver stresses. Each LAP contains the following elements: introductory materials explaining each LAP's purpose and objectives; informational handouts; exercise sheets; and check point tests. (BM)

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SAFE PERFORMANCE CURRICULUM

Student Materials

Driver Education Curriculum
for
Secondary Schools

Final Revision

Prepared for

National Highway Traffic Safety Administration

U.S. Department of Transportation

by

HumRRO

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U S DEPARTMENT OF HEALTH
EDUCATION & WELFARE
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CE 019 858

LEARNING ACTIVITY PACKAGE 1-1

INTRODUCTION

SAFE DRIVER COURSE

WHAT HAPPENS IN THIS LEARNING ACTIVITY PACKAGE

Welcome to driver education. This first material is designed to do two things. First, it is to help you become more familiar with this course. It will tell about what will be covered and how the course will operate. Second, this handout will provide some experience in using Learning Activity Packages. To abbreviate this, we will call them LAPS. The handout that you are now reading is the first of the LAPS that will be used in this course.

You are expected to learn the material in this LAP on your own (independent study). Please read it before your next driver education class period. During school time, three driver education class periods will be devoted to the introduction to this course. These sessions will provide an opportunity for you to ask questions about things you read in this LAP. It will also allow you to get acquainted with an instructor for the course and find out about other material and equipment available at your school for driver education.

WHY YOU STUDY THIS LAP

This course will be conducted in a way that might be different from others you have taken. In order to set the stage for some of the different things, it might be helpful to spell them out the first few days of the course. You may have questions or concerns about the course and the way it will work, and this will be a good time to get them answered. Since you will be working with many other LAPS that are designed like this one, it should give you some experience in working with them.

WHAT YOU NEED TO LEARN IN THIS LAP

A. The reasons why this course is being taught.

B. What a LAP is, and how you use one.

C. How the following parts of this course fit together:

  Independent study

  Classroom sessions

  Off-street and on-street exercises

  Practice with parents

D. What aids are available to help you learn, and where you can find them.

E. What subjects are covered in the course.

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WHY TEACH DRIVER ED?

This course is presented to help you learn to be a safe driver. Even with modern freeways and safety equipment on newer cars, more than 55,000 Americans die each year on highways. This is more highway deaths in one year than U.S. deaths in the entire Viet Nam war. Many more persons receive disabling injuries, and the costs to all persons through taxes and car insurance runs into the billions of dollars. Some ways to drive a car are safer than others. In this course, we want to give you a chance to learn what some of these safe driving practices are. Safe driving involves knowing what to do and being able to do it. The course will cover both knowing and doing.

Each student in a driver education course can have somewhat different reasons for taking it. Think about why you enrolled in this course, and what you want to get from it.

HOW THIS COURSE WILL WORK

The following is a picture of the way the course looks and how all of its pieces fit together. There are six kinds of activities in the course: Independent study, classroom, guided learning, range practice, on-street practice, and practice with parents.

1. Independent Study

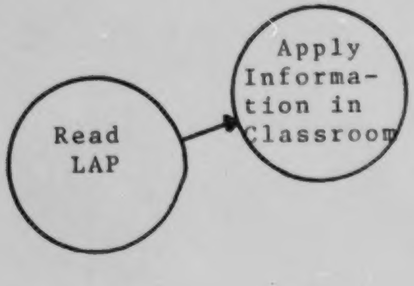
Independent study refers to work that you will do on your own, using materials provided to you in the course. There is a fair amount of straightforward information that you will need to learn in order to be able to drive a car safely.

To help you in your independent study, you will receive a Learning Activities Package (LAP) for each section of the course. What you are reading now is a Learning Activities Package (LAP) for the Introduction to the course. Each one of them will contain an overall view of what is in the LAP, written information and pictures, exercises, and a self-test to check your own learning.

You can work on your LAP any time. You can study your LAP at home or during your free time at school.

2. Classroom

After you have read a LAP, you will have one or more classroom sessions that will give you a chance to ask questions about what you have read. The classroom also will be used to help you use the information you learned in the LAP and apply it to actual driving situations. This may involve the use of a simulator. The simulator is a machine in the classroom-trailer that looks a bit like the driving compartment of a car. It has a steering wheel, gauges, brake and accelerator pedals, plus lots of other things that you will learn about later.

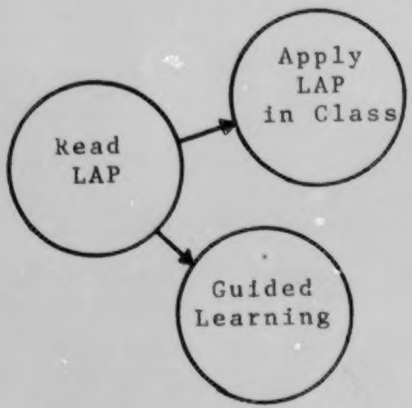


This drawing shows how the classroom will be used to apply information you get from reading a LAP.

It is important for you to know that the classroom periods in this course will not be used to cover the same information that you read in the LAP. This would waste your time. The classroom will be used for you to ask questions and to apply the information you have already learned by reading the LAP. At certain times, the classroom period will also be used for discussion or watching films and slides.

3. Guided Learning

The guided learning sessions may be a new thing to you. These guided learning sessions provide time for you to work on problem areas or to do advanced work. Guided learning is not, however, the same thing as a study hall or a lecture. What makes it different is that you will talk with a teacher to work out what would be the best use of your time. You might spend the session working with the simulator. You might work with another student doing an exercise. You could spend the time reading ahead in the LAPS. Just how you spend your time in the guided learning session will depend upon what your needs are in the course.

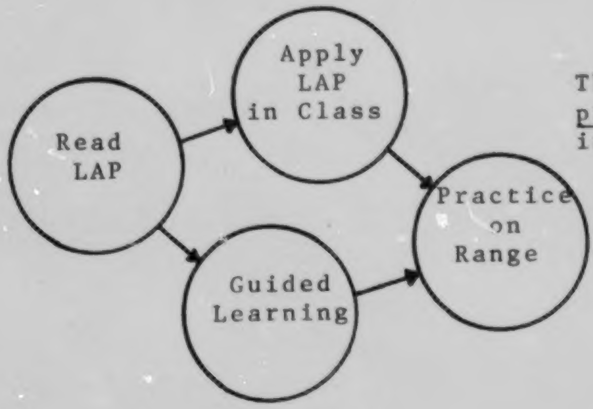


Guided learning sessions will give you a chance to work on problem areas or to do advanced work.

Alternative Materials. One of the things you might do during the guided learning session is work with different materials. Sometimes the information included in a LAP may not seem to make sense at first. You might feel bogged down with the material, and want to see the ideas from a different angle. The alternative materials will provide a different way of covering the same topic. Alternative materials include filmstrips, slides, or other materials which should make it easier to understand the information in your LAP.

4. Range Practice

O.K. Let's recap your progress so far. First you read your LAP. Then the classroom session was used to apply this knowledge. Your guided learning session gave you the chance to work out any problems. The next step, then, is range practice. In this activity, you will actually drive the car. This driving will take place on what is called a "range." This can be a special place or a parking lot that is marked and set up especially for driving. Your work with the range will begin with very simple maneuvers. You will practice starting, stopping, and turning. As each of these things is mastered, you will begin doing tougher maneuvers with the car. The range allows you to build up your skills without lots of traffic. It also provides a safe place to practice some of the more difficult driving jobs that you will work on later in the course--for example, how to make fast changes in your direction to avoid an accident.

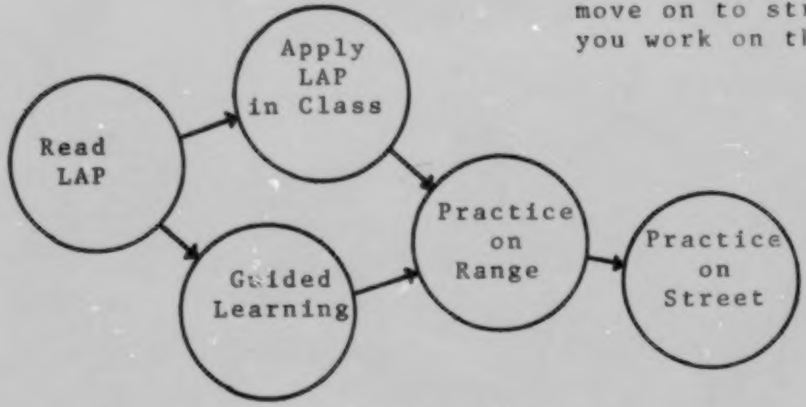


This drawing shows how you'll practice what you have learned in class by using the range.

5. On-Street Practice

Now you are ready to drive the car on the street. These sessions will begin with areas that have little traffic and gradually work up to more complicated situations. Your instructor will be with you during this street practice. He will give you directions about where to drive. He will also let you know what you do well and where you need more work.

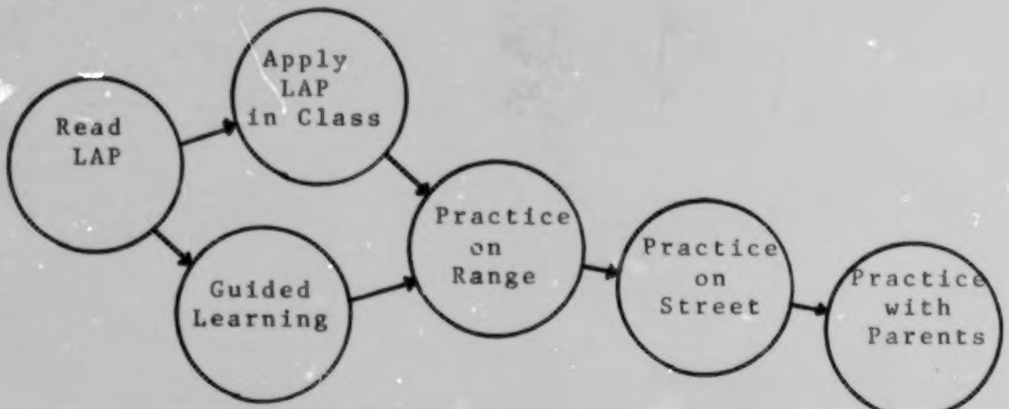
This drawing shows how you'll move on to street practice after you work on the range.



When you drive on street, one or two other students will be observers in the car. They will also drive during the on-street session. Observers will use the information gained from their reading to think about how they would react if they were driving. This gives them practice at seeing different hazards and driving conditions. They will not, however, criticize (talk to or about) the driver or interfere with his practice behind the wheel.

6. Practice with Parents

After you have begun to develop your driving skills with on-street practice, you will need more driving time. For example, an important part of driving involves seeing possible hazards along the side of the highway and within traffic. The ability to see these hazards while you are moving through traffic must be worked out over a period of time. In order to provide this additional practice time, you may drive with your parents or relatives. Their job will not be to instruct you in what to do. You will already have learned what to do in your range and on-street practice. Your job now is to practice driving safely. Their job is only to accompany you and assist with your practice. Of course, the person who drives with you must be a licensed driver.

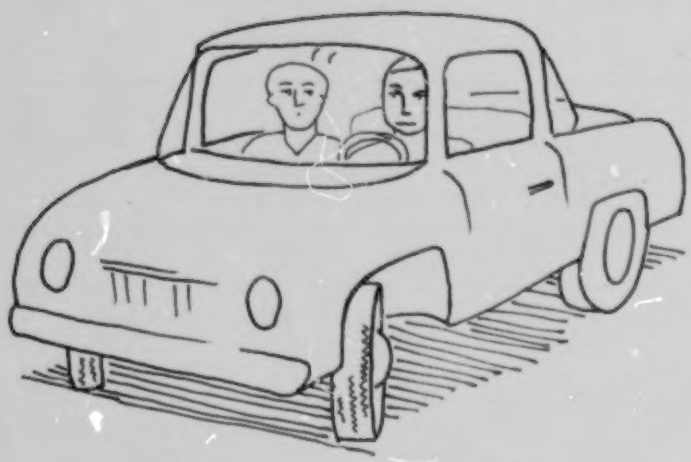


This drawing shows how you will progress through the different activities in the course. Basic information is learned on your own as part of independent study. The classroom is used to apply this information and give you a chance to ask questions and discuss issues. The guided learning sessions give you a chance to work on solving problems. The range practice gives you a chance to acquire driving skills in the safety of a place without lots of traffic. Then, you will develop your driving skills on the street. Finally, you will get more practice by driving with your parents or relatives.

COURSE OUTLINE

Now you have a brief idea of how the course will work. The content of the course is divided into 8 units. Unit 1 is what you are reading.

Unit 1	Introduction
Unit 2	Basic Control
Unit 3	Normal Driving
Unit 4	Environmental Effects
Unit 5	Complex Perceptual Skills
Unit 6	Driver Influences
Unit 7	Emergency Skills
Unit 8	Non-Driving Tasks



Unit 2 - Basic Control Tasks

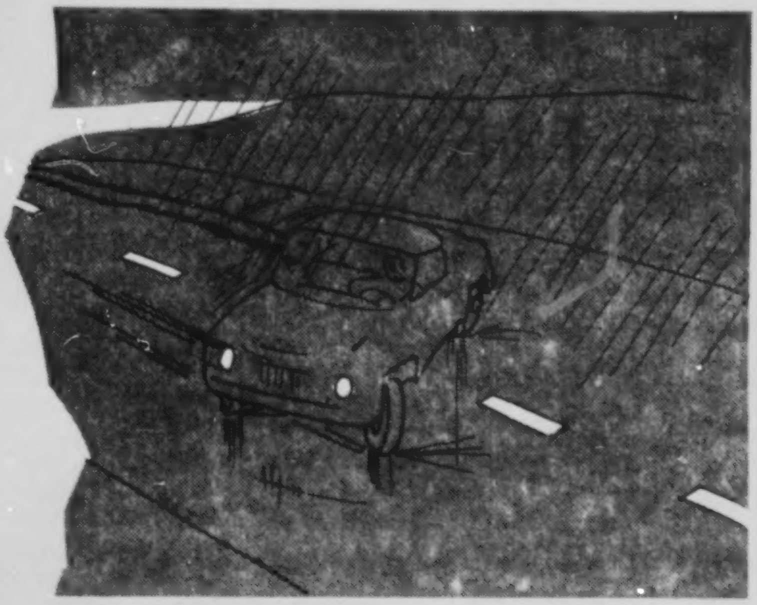
This unit will help you develop the basic skills necessary to control the car. It will help to give you a feel for the steering and braking action of the car. The unit will be divided into two sections. The first will cover starting the car, accelerating, turning, and stopping. You'll practice these things in your first few range lessons. In the second section (covered later in the course), you will practice backing and parking.

Unit 3 - Normal Driving

This unit deals with typical driving. You will face hundreds of different things in normal driving: turning, passing, changing lanes, etc. Rather than try to memorize how to do each of these things, you will study four basic principles. They are observing, communicating, adjusting speed, and positioning. You will use these principles to learn how to drive safely on the roadway and in traffic.

Unit 4 - Environmental Factors

Now you have learned how to control the car and the basic principles for safe driving. In this unit you will begin to study special conditions which can make driving hazardous. For example, one of the LAPS in this unit discusses the problem of a slippery road. This will include icy conditions, snow, sand, or mud. Other LAPS in this unit cover times when it's hard to see, and night driving.



Unit 5 - Complex Perceptual Skills

Perceptual skill means being able to see what's happening while you are driving and to make decisions requiring fairly complex judgments. For example, deciding whether you have enough room to pass a car on a two lane road involves a perceptual skill. You will need to make a fast decision about whether there is enough room for you to pass safely. This kind of skill cannot be learned from a book. This unit will provide you with the practice necessary to become good at seeing these situations and making decisions about them. As another example, a driver must be able to look around in all directions while he is driving on a city street. He needs to be aware if someone is following him too closely. He needs to see if there are persons standing on the sidewalk who look like they may cross the street. In addition to all of this, the driver must be watching traffic directly in front of him. The ability to do all of these things is one that must be developed through practice.

Unit 6 - Driver Influences

Driving the car safely involves the ability to pick out hazards and make quick decisions about them. There are often times when many things are happening at once. Unit 6 is concerned with those influences that can reduce the ability of the driver to make these fast and complex decisions. A person's physical and emotional condition can influence his ability to drive a car safely. Similarly, alcohol and other drugs can affect a driver's ability. This unit will provide straightforward and factual information about things that can reduce your ability to drive the car safely.

Unit 7 - Emergency Skills

The course moves from the basic skills to tougher jobs. Unit 7 covers the skills that you will need in an emergency. For example, some day you may have another vehicle coming straight at you down the highway. What's the best thing to do? Should you try to stop? Should you turn to the left? Should you try to turn and stop? While such things do not happen very often, knowing the right thing to do could save lots of problems. Included in this unit is information on how to control your car when it goes into a skid, what to do if you have some kind of trouble with your car (e.g., bad brakes, tire blowout), etc. Using the off-street practice area, you will get to practice steering and braking procedures for some of these emergency situations.

Unit 8 - Non-Driving Tasks

This final unit in the course covers things that are important but are not involved with actually sitting behind the wheel. It will include information on what to do in the event of breakdowns and accidents with your car. Hints about proper maintenance and servicing will be provided, so that you can operate a safe car. Information will be provided to help you plan ahead for trips, as well as how you might play a role in improving the overall highway and traffic system in our country.

PROGRESS CHARTS

In Unit 2 you will receive a "progress chart." (There's a copy of this chart on the next two pages.) The chart is to help you judge how well you do each driving task (or job). It lists all the driving jobs you will be expected to do on the range and on-street.

The chart has blocks which you will fill in with a ✓ mark when you think you did a task well, or the letters "NP" if you think you need more practice in a certain task.

Your instructor will also keep a progress chart for you. Then during Guided Learning, you and your instructor will compare notes on your performance. If you both agree that you did a task well, then you proceed to the next task. If your instructor thinks that you need more work on a certain task, then he may suggest an activity that will help you. This might mean watching a filmstrip, working on an exercise with another one of your classmates who is having the same problem, going to the range for more practice on the tasks you're having problems with, or even reading part of your Learning Activities Package.

Bring your progress chart to every range and on-street lesson. You and your instructor will be discussing the driving jobs on your chart during the lesson. Before you go out on the driving range the first time, your instructor will explain in more detail how to use the progress chart.

Answers to Check Point Test: 1=c, 2=d, 3=b, 4=c, 5=d, 6=d.

NAME ____________________

GROUP # ______

STUDENT COPY

ON-STREET PROGRESS CHART

CODE: ✓ = Satisfactory NP = Needs Practice

TASKS	S01	S02	S03	S04	S05	S06	S07
Street Usage							
Keeps car in proper lane	☐						
Observes other road users		☐			☐		
Provides "space cushion"		☐	☐		☐		
Adjusts speed to roadway	☐						
Adjusts speed to traffic	☐	☐		☐	☐		
Makes proper steering inputs (doesn't oversteer)	☐						
Intersections (Stop/Straight Through)							
Approaches in correct lane	☐						
Adjusts speed	☐						
Checks mirrors prior to slowing/stopping	☐	☐					
Stops in correct spot (if stopping)	☐			☐			
Observes/Responds to traffic at intersection		☐			☐		
Estimates gap for maneuver		☐		☐			
Intersections (Turns)							
Signals	☐						
Observes/Responds to other roadusers		☐			☐		
Positions in correct lane	☐						
Observes traffic control devices	☐						
Coordinates braking/steering/accelerating	☐			☐			
Adjusts position properly after turn	☐						
Checks traffic to rear after turn		☐					
Entering Expressway							
Checks mirrors		☐					
Shoulder checks		☐					
Signals		☐					
Adjusts speed acc. to traffic (gap)			☐				
Responds app. to traffic sign on ramp		☐					
Leaving Expressway							
Signals		☐					
Checks/Responds to traffic			☐				
Changes lanes appropriately		☐					
Adjusts speed on ramp where possible		☐					
Passing							
Judges time/distance available (start/return)			☐				
Checks mirrors			☐				
Shoulder checks			☐				
Signals			☐				
Makes smooth pass (accelerates during pass)			☐				
Hazard Perception (See Comments)							
Recognizes hazards					☐		
Responds to hazards					☐		
Off-Road Recovery							
Centers vehicle on curbing							☐
Applies proper steering input							☐
Does not brake							☐

STUDENT COPY

RANGE PROGRESS CHART

CODE: ☐ = Satisfactory NP = Needs Practice

TASKS	SR1	SR2	SR3	SR4	SR5	SR6	SR7	SR8	SR9	SR10	SR11	SR12	SR13
Car #:	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Pre-Starting Procedures	☐	☐		☐									
Starting Procedures	☐	☐		☐									
Accelerating	☐			☐									
Stopping	☐			☐									
Lane Positioning	☐	☐		☐									
Following	☐	☐		☐									
Left Turns	☐	☐		☐									
Right Turns		☐		☐									
Serpentine		☐								☐			☐
Lane Changing		☐		☐									
Blending: One-way streets			☐										
Following: Two-way streets			☐										
Lane Posit: Two-way streets			☐										
Turning ag. traffic (gap)			☐										
Lateral clearance					☐								
Longitudinal clearance					☐								
Merging					☐								
Exiting					☐								
Backing Left/Right						☐							
Parallel Parking						☐							
Passing							☐	☐					
Angle Parking									☐				
U-turn									☐				
Two-point Turn									☐				
Evasive Left/Right											☐		☐
Controlled Braking												☐	☐

EXERCISE #1

(NOTE: Many of the Learning Activity Packages (LAPS) that you will use during this course will have exercises. They will be located at the end of the written information, and will provide some experience in using the information from that LAP.)

PURPOSE:	This exercise is to encourage you to do some thinking about why you're in the course and how you expect it to be.
MATERIALS NEEDED	This exercise sheet. Pencil or pen.
TIME REQUIRED:	About 10 to 20 minutes.
INSTRUCTIONS:	Listed below are several incompleted statements. Read each statement and think about how you would complete it, using your own words. Be honest! Then, fill in your response to each statement right on this exercise sheet. You will discuss these in class, and then hand them in.

1. I am in this course because ______________________________

____

____

2. What I hope to gain from this course is ____________________

____

____

3. What I'm willing to put into this course is _________________

____

____

4. One thing that I'm worried about in this course is ___________

____

____

5. Other comments _____________________________________

____

____

CHECK POINT: TEST OUT YOUR UNDERSTANDING (1-1)

NOTE: Near the end of most LAPS you will find a short test similar to this one. It will be called Check Point: Test Out Your Understanding. The purpose of these short tests is to help you see how well you have learned the information contained in the LAP. The answers will be given to you, and you can check your own score. If you have a difficult time with any test, you may need to do more work studying your LAP. You may also use the alternative materials, or you may talk with the instructor about how to get a better grasp of the material.

Generally, on the last day that the material for a unit is covered in the classroom, you will be given a classroom test of how well you know the information from your LAP. These check point tests should help you see whether you are ready for the classroom tests.

Instructions: When you think you understand the information contained in this LAP, answer each of the questions below. Circle the letter next to the answer you think is most correct.

1. Safe driving is mostly a matter of:

    a) What you can do behind the wheel
    b) What you know about how to drive safely
    c) Both what you know and what you can do
    d) None of the above

2. One of the topics that will be covered in this course will be:

    a) Deciding when to pass another car
    b) Starting the car
    c) Controlling the car during a skid
    d) All of the above

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3. This test that you are now taking is part of:

   a) Classroom material
   b) Learning Activity Package (LAP) for Unit 1
   c) Off-street instruction
   d) None of the above

4. The main reason this course is given is to help you:

   a) Learn to drive in a way that is comfortable for you and your passengers
   b) Learn how to drive defensively
   c) Learn how to be a safe driver
   d) None of the above

5. Most learning activity packages will contain exercises. These exercises should be done:

   a) In the classroom session
   b) During the on-street practice
   c) During off-street practice
   d) During any available free time

6. The classroom sessions in this course will mostly be used for:

   a) Presenting the same written materials that are found in the Learning Activity Package
   b) Answering questions about the written materials
   c) Applying information about the written materials to actual driving situations
   d) Both b and c are correct

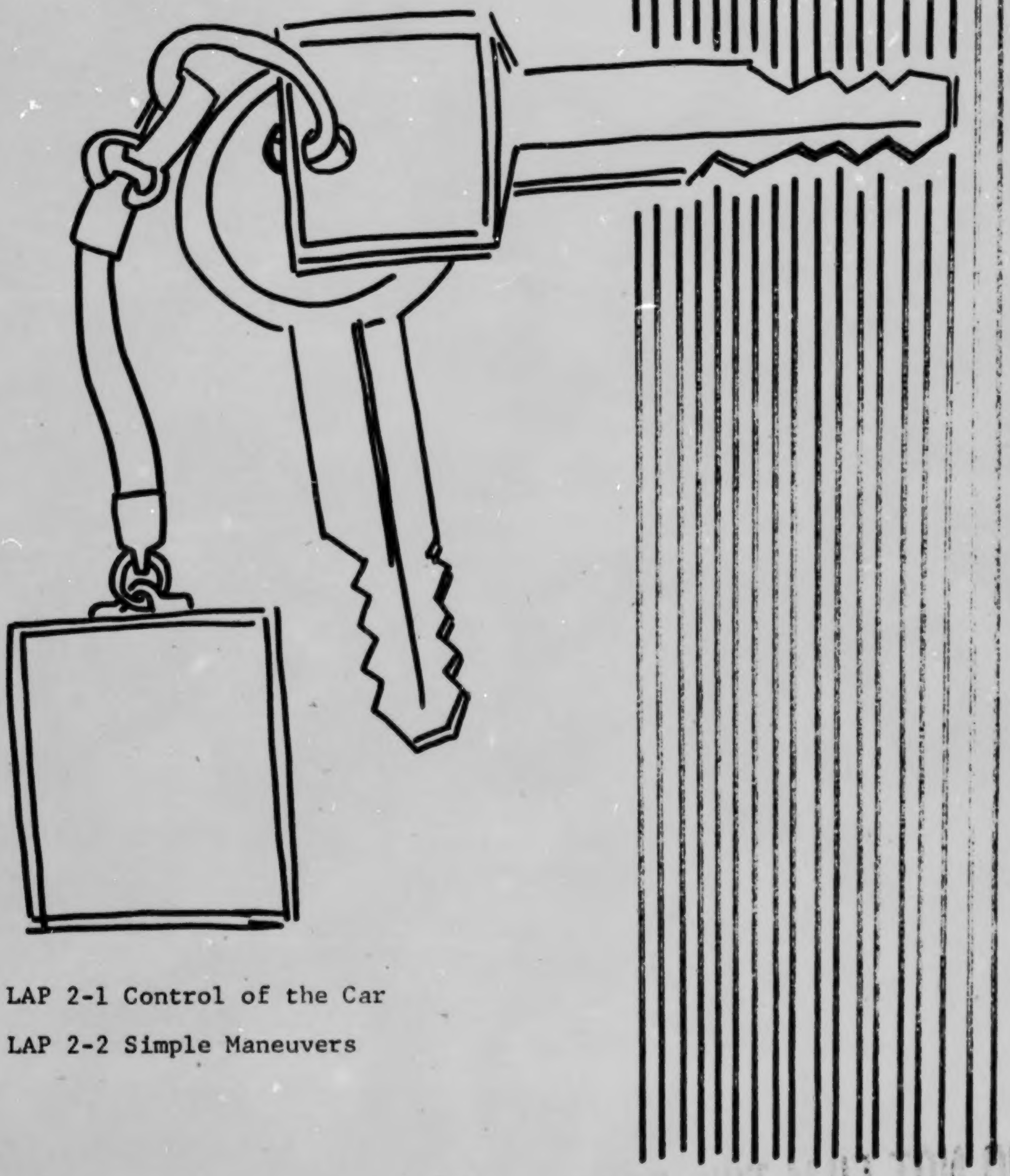
Now check your own answers to these six questions, using the answers provided on page 10.

If you have answered at least 5 of the 6 questions correctly, then you can assume you did a fairly good job of learning the materials contained in this Learning Activity Package. For each LAP that you will study after this one, there will be short test in the classroom to see how well you have learned the material. The check point tests like this one will help you get an idea of how well prepared you will be for the classroom test. However, there is no classroom test that will be given covering this LAP 1-1.

If you have any questions about the written material, exercise, or check point test, please be sure to ask your instructor about them during the next classroom session or guided learning session.

Unit 2

Basic Control Tasks



LAP 2-1 Control of the Car

LAP 2-2 Simple Maneuvers

LEARNING ACTIVITIES PACKAGE 2-1

CONTROL OF THE CAR

SAFE DRIVER COURSE

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WHAT HAPPENS IN THIS LAP

In this LAP, you will learn the things to do outside and inside the car before you start the engine. You will also learn how to start the engine, how to get the car moving and stopped, how to steer and turn corners.

After you read these study materials, there will be classroom time to clear up anything you don't understand. Then on to the simulator and range for some practice in these procedures.

WHY YOU STUDY THIS LAP

This LAP covers the first several basic control procedures for driving a car. The word basic means a starting point, and that is what this LAP gives you -- a starting point for you to become a skillful driver. You must learn the procedures in this LAP so thoroughly that they become a habit. Once you're in the car and driving down the roadway, you won't have time to "think" about these things. You will have to give all your attention to conditions and situations outside the car.

WHAT YOU NEED TO LEARN

A. Predriving Procedures

1. Things to do before you get in the car.
2. Things to do before you start engine.
3. How to start the engine.

B. Accelerating and Stopping

1. How to move the car forward and maintain speed.
2. How to slow and stop the car.
3. How to secure the car.

C. Steering

1. How to position your hands on the steering wheel.
2. How to maintain direction.
3. How to turn left and right.

BEFORE YOU GET IN THE CAR

1. Check windows and lights.

Car windows and lights can easily be checked as you're walking toward the car. You should make sure that all windows and lights (front and rear) are clean so that you can see, and others are able to see you.

2. Check tires for inflation and direction of front wheels.

Check tires to see if they need air. (Recommended air pressure is given in the car owner's manual.) Also check tires for uneven wear, cracks in the sidewalls, and bulges. Then check the direction the wheels are turned. They should be aimed straight ahead before you move the car so that you don't take off at an angle.

3. Check for objects in path of car.

Look around and under the car for anything that may be in the path of the car.

4. Unlock the door.

BEFORE YOU START THE ENGINE

There are several procedures for you to take care of before you start the engine. These procedures are discussed in the order you should do them. If you do them in this order, you avoid having to do any of them over again. To illustrate: Adjust the seat first; then adjust the mirrors. The mirrors will then be adjusted to the position in which you will be driving.

Here are the "prestarting" procedures:

1. Put key in ignition switch.

Put the key in the ignition switch as soon as you get in the car. Don't put it on the seat, on the dash, or in your pocket. You may not be able to find it when you're ready to start the engine.

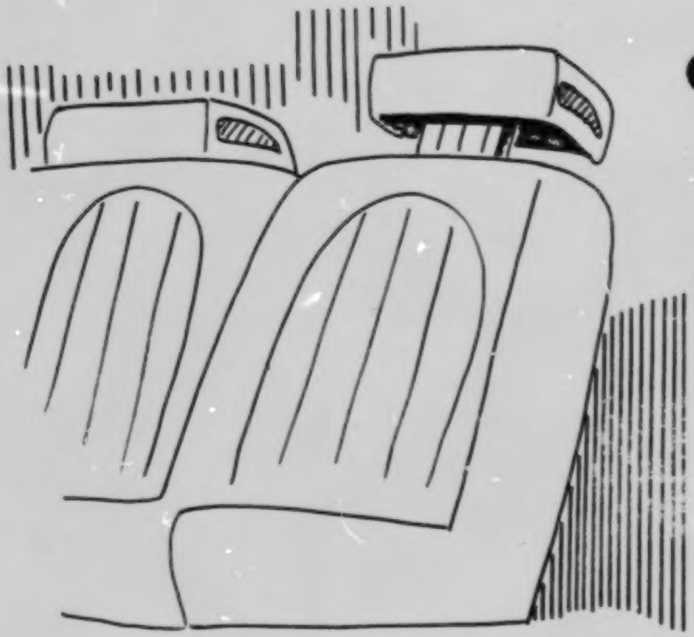
2. Lock doors.

Make a habit of locking the doors as soon as you enter the car. Locked doors help keep you and your passengers from being thrown out of the car in case of an accident. They also help keep out individuals you might not want in the car.

3. Adjust seat and head restraint.

Adjust your seat so you can reach the controls easily and see over the steering wheel. If the seat cannot be adjusted to your size, sit on a cushion. The proper position is to have your back against the seat, with a comfortable bend in your legs, and enough space so your arms can swing freely when you grip the steering wheel. The heel of your shoe should rest on the floor. (See drawing on page 5 for correct position.)

Adjust the head restraint so that when you lean your head back, it meets the head restraint squarely. If the head restraint is not adjusted properly, it won't be of much help in reducing or preventing neck and back injuries in case of an accident.

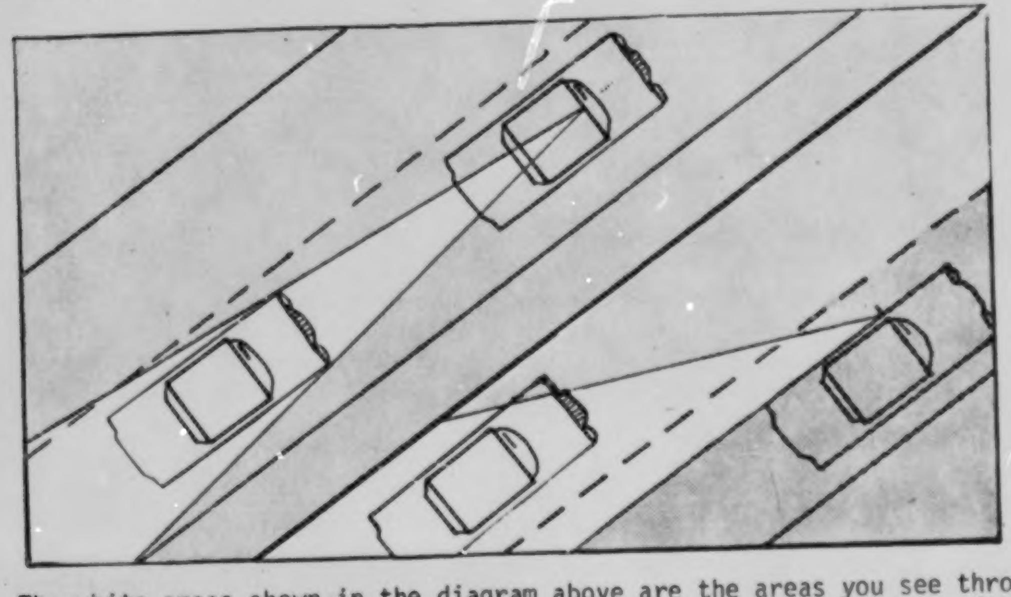


When properly adjusted, head restraints help prevent whiplash and back injuries.

4. Adjust mirrors.

Adjust the inside rearview mirror so that you can see the center of the roadway and traffic behind you. Many inside mirrors have an adjustment which eliminates glare reflected at night from headlights of cars to the rear. Check this adjustment.

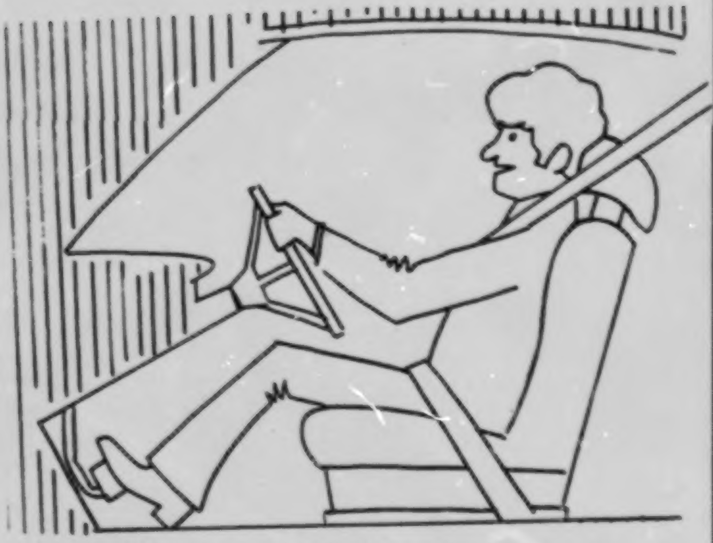
An outside rearview mirror on the left side of the car gives you another view of the roadway to the rear, especially a view of traffic coming up behind you in the left lane. When this mirror is adjusted correctly, the left side of your car is barely visible from your normal driving position.



The white areas shown in the diagram above are the areas you see through your rearview mirror (top of diagram) and outside sideview mirror (bottom of diagram) when they are adjusted correctly. Don't forget, though, that there will be "blind spots" on both sides of the car even when the mirrors are adjusted properly. For certain driving tasks, you'll have to glance back over your shoulder to check for cars in the "blind spot."

5. Fasten safety belts.

Make sure you and your passengers fasten safety belts. Safety belts include seat belts and shoulder harnesses. In case of an accident, they help keep down the number of injuries or help keep injuries (head and chest injuries, knee injuries, spine injuries) from being so bad. Why? Because the safety belts keep you and passengers from being thrown forward or out of the car when impact occurs.



This diagram shows the correct way to wear your safety belts--both seat belt and shoulder harness. It also shows the correct seat adjustment.

For you, the driver, they do even more:

- They hold you behind the steering wheel in a position to control the car, in case of an accident.
- They keep you from moving around and swaying when you're driving on bumpy or twisting roads or have to steer sharply.
- They help reduce fatigue by preventing you from sitting in a slouched position while you're driving.

Points to remember about safety belts.

- A shoulder harness does not replace a seat belt. It is an added safety measure.
- Allow only one person to a seat belt.
- Do not use the shoulder harness without the seat belt. However, the seat belt can be worn without the shoulder harness.
- The seat belt should fit snugly and comfortably, and low over the hips, not around the waist, so that you can bend normally.

ANSWERS TO CHECK POINT TEST: 1. = a; 2. = a; 3. = d; 4. = c; 5. = c; 6. = d

ANSWERS TO EXERCISE #1: Before You Start the Engine - 4, 2, 5, 1, 3
Starting Engine - 4, 2, 3, 1

STARTING THE ENGINE

1. Put left hand at top of steering wheel.

With your left hand at the top of the steering wheel, you are ready to control any accidental movement of the car.

2. Set the choke if the engine is cold.

When the car hasn't been driven for awhile, the engine will be cold. It will start more easily if you "set" the choke. In most cars, you set the choke by pushing the accelerator pedal all the way to the floor once, then letting it up immediately.

If the engine is not cold, just push the accelerator part way down.

3. Turn ignition switch to ON, then to START.

When you turn the ignition switch to the ON position, you turn on the electricity. Gauges and warning lights turn on, and you will notice that you can now move the steering wheel. When the ignition is off, the steering wheel is locked and cannot be moved.

Continue to turn the key until the engine starts, then release the key.

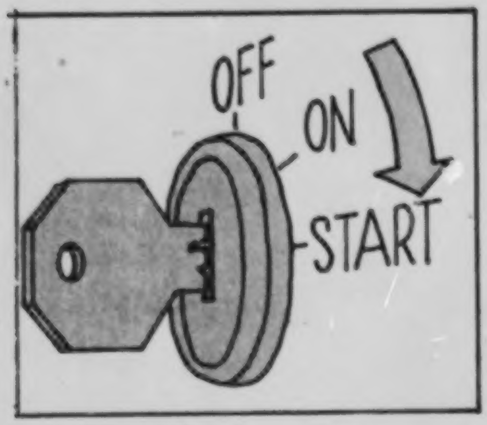


Diagram of ignition switch, showing OFF, ON, and START positions. Many cars now have a LOCK position to the left of the OFF position.

When You "Flood" the Engine

If the engine does not start, and you smell gasoline, you have probably "flooded" the engine. Here's what you do to get the engine started:

1. Push the accelerator to the floor and hold it there.
2. Run the starter (turn the key to start and hold), but do not pump the accelerator.
3. With about 10 to 20 seconds of steady starter operation, the engine should start. If it doesn't, wait five minutes or so and try again.
4. When the engine starts, release the accelerator gradually to allow excess gasoline to clear out of the engine. Do not race the engine.

4. Check gauges.

Oil pressure indicator or warning light. This indicator tells you whether the oil in the car is circulating properly. If this warning light stays on after the engine starts, there's something wrong. Find out what the problem is before you drive.

Generator (or alternator) warning light. If this gauge stays on after the engine starts, or comes on while you're driving, it means that electricity is not being generated. As soon as you've used up the amount that is stored in the battery, the car won't run any longer. Head for a service station to find out what the problem is when this happens.

Fuel gauge. The fuel gauge indicates the amount of gas you have in the car. You should check the gauge regularly while you're driving to make sure the car doesn't run out of gas.

MOVING THE CAR FORWARD

1. Apply the brake.

Put your foot on the brake pedal before moving the gear selector lever. Don't take your foot off the brake until you're ready to move the car.

2. Move the gear selector lever to Drive.

To get ready to move the car, shift to Drive, which is the gear for moving forward.

Most cars have the following gear positions, in addition to Drive:

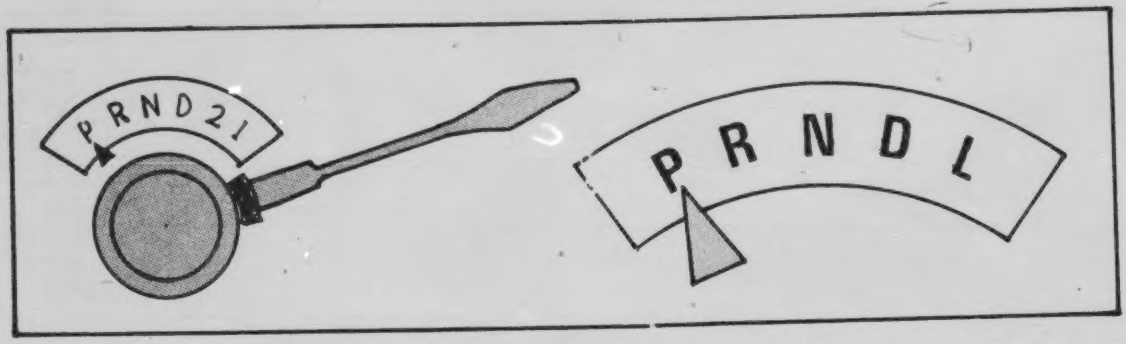
R for Reverse -- the position for backing the car.

P for Park -- one of two stop positions. In Park, the gears are locked.

N for Neutral -- the second stop position. In Neutral, the gears are not locked.

L for Low -- the position for hard pulling or for going down a steep hill.

(On the next page is a diagram of a gear selector lever and shift indicator. In some cars, the selector lever is on the floor console.)



In diagram above, the gear selector lever is set in Park position.

This diagram shows another common shift indicator. Note that it has only two forward gears--Drive (D) and Low (L), while the indicator at the left has three (D, 2, 1)

3. Release parking brake.

In most cars, you pull a hand lever to release the parking brake.

4. Take your foot off the brake pedal.

Do this after you make sure that there is nothing in your path of travel.

5. Push down slightly on accelerator.

Place your right foot on the accelerator and press slightly. With light pressure on the accelerator, you will feel the car move forward very gradually. It takes a few seconds before the car responds to the accelerator. If you don't allow for this "delayed" effect, you may push the accelerator down too far. Then the car begins to move too fast; so you let up on the accelerator very quickly, and then you're off to a "jerky" start.

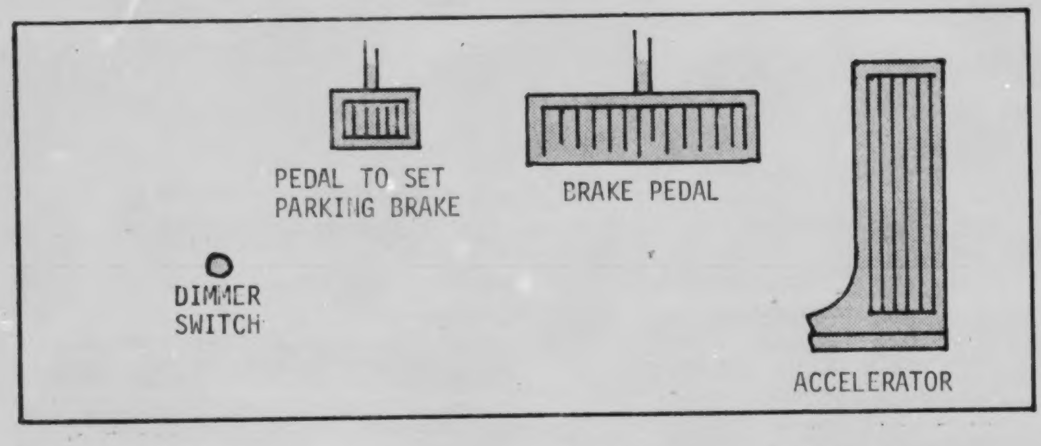
Why is it important to accelerate gradually? One reason is comfort. But more important is the fact that slow acceleration gives other drivers and people who are walking a chance to see what you're doing and to react as necessary.

Once the car has started to move, press down on the accelerator slowly to increase your speed. Smooth, gentle pressure with the top part of your foot will insure smooth acceleration.

Just before you reach the speed you want, begin to ease up on the accelerator. Don't let up suddenly. This will cause a jerky motion.

How do you know when you've reached the speed you want? Glance quickly at the speedometer. Eventually you will learn to judge speed fairly well, but the surest way to know what speed you are travelling is to glance at the speedometer.

Maintaining speed. To keep the same speed, try to maintain a steady, even accelerator pressure. At first, you will probably have some trouble doing this. Your speed will begin to increase and you'll have to ease up on the accelerator; or your speed will drop and you'll have to increase accelerator pressure. This "speed up-slow down-speed up" cycle will make your driving uneven and uncomfortable. However, before long you will be able to judge the correct accelerator pressure for any speed. Glance at the speedometer from time to time.



This is a diagram of the foot controls in an automatic transmission car.

SLOWING AND STOPPING CAR

1. Ease up on accelerator.

When you ease up on the accelerator, the car will begin to slow down. Whenever you want to slow down, you should get in the habit of checking the rearview mirror--quickly--for traffic behind. Do this before taking your foot from the accelerator.

In most cases, when you slow down, it's best to ease up on the accelerator and then apply the brakes. When you apply the brakes, the brake lights go on, warning cars behind that you are slowing down.

2. Apply brake.

Learn to brake smoothly. To do so:

- Remove your foot from the accelerator.
- Place your foot on the brake pedal and apply pressure gradually. When the brake pedal gets firm under your foot, you will notice that the car will begin slowing down.
- Continue to press down gently, and the car will slow down smoothly and steadily.

3. Bring car to a stop.

To come to a stop, keep a firm and steady pressure on the brake. If you are not slowing fast enough, apply a little more pressure; if you are stopping too quickly, ease up on the brake pedal.

Just before your car comes to a complete stop, ease up briefly on the brake and then apply it again lightly to bring the car to a complete stop. If you don't do it this way, the car may come to a stop with a jerky motion. Once you've come to a stop, maintain firm pressure on the brake pedal to prevent your car from drifting forward.

SECURING THE CAR

1. Put gear selector lever in Park.

When the gear selector lever is in Park, the car cannot move because the gears are locked. In newer cars, the gear selector lever must be in Park before you can remove the key from the ignition switch. (See diagram on page 8.)

2. Shut off all electrical accessories.

Turn off the radio, heater or air conditioner, windshield wipers, and other electrical devices. This will prevent a drain on the battery when you start the engine the next time.

3. Turn key to Off to turn off the engine. (Turn key to Lock, if the ignition switch has that position.)

4. Set parking brake.

To set the parking brake in most cars, you push a lever with your left foot. Setting the parking brake gives added protection against the car moving. (See diagram on page 9.)

5. Release safety belts.

6. Close windows and lock doors.

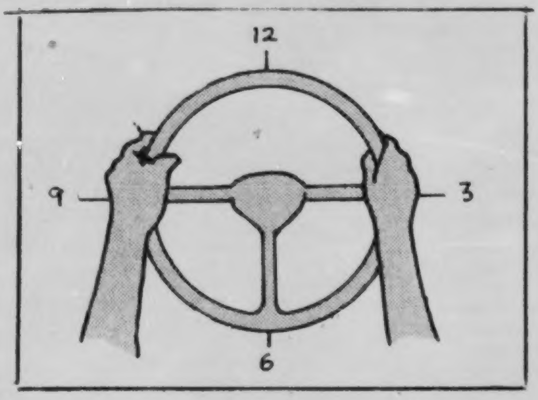
This security measure will make it harder for someone to steal your car.

Secure the car whenever you park, whether in a parking space, in your own driveway, or in front of a friend's house. If the doors lock without a key, be sure you have the car key with you before you lock the last door.

STEERING

Positioning hands on steering wheel.

The first thing in learning to steer is how to grip the steering wheel properly. Using the proper grip is as important to good driving as it is to tennis, baseball, or golf. The best way to grip the wheel is to place the hands in a comfortable position on the upper half of the steering wheel, one hand on each side. If you picture the steering wheel as the face of a clock you would place your hands at about 9 o'clock and 3 o'clock on the rim of the wheel, as shown in the diagram at the right.



Grip the wheel firmly but not tightly. With your seat in the correct position, your arms, as you grip the steering wheel, will be somewhat in front of you, and you will be able to move them easily and freely.

Maintaining Direction

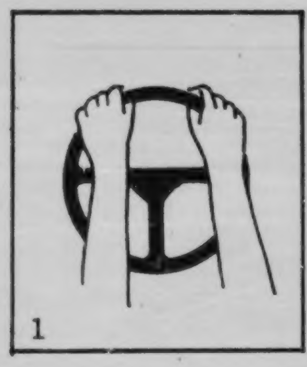
To drive in a straight line, you have to turn the steering wheel whenever the car begins to drift off course. If you watch the road carefully, however, the car will stay pretty much on the correct path, and you will have to make only small steering corrections.

As your speed increases, you should make smaller steering corrections. Large steering corrections may cause the car to swerve back and forth, and you could lose control of the car.

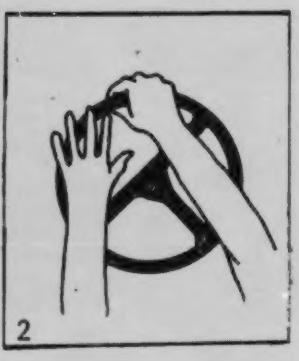
TURNING

It takes a large turn of the steering wheel to change the direction of the car. For making such large turns of the steering wheel, the hand-over-hand steering technique is probably the best. This method allows you to keep good, strong control of the car because at least one hand is always on the steering wheel.

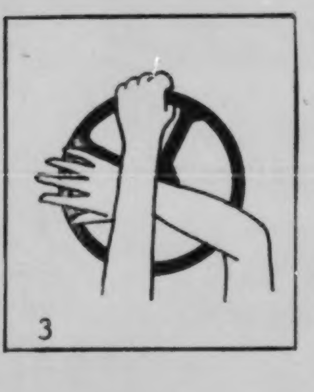
The following series of diagrams shows you the hand-over-hand steering technique for making a left turn. For a right turn, the movements would be in the opposite direction.


1

Position your hands for starting the turn at about the 10 and 2 o'clock position. This position allows you to cross one hand over the other; thus the name for this steering technique--the hand-over-hand method.

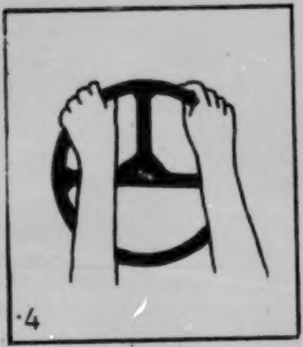

2

Begin the left turn by pulling down with your left hand and turning the wheel to the left with your right hand.


3

As you turn the steering wheel with your right hand, cross your left hand over your right and grip the wheel with your left hand. Take your right hand from the wheel and continue the turn with your left hand. (Keep both hands on the wheel as long as possible for maximum control.)

Repeat these motions until you have turned the steering wheel enough to get the car in the path you want it to take. Make steering corrections as necessary. With practice, you will learn to judge how much to turn the steering wheel, and in time you will need to make few, if any, steering corrections during a turn.

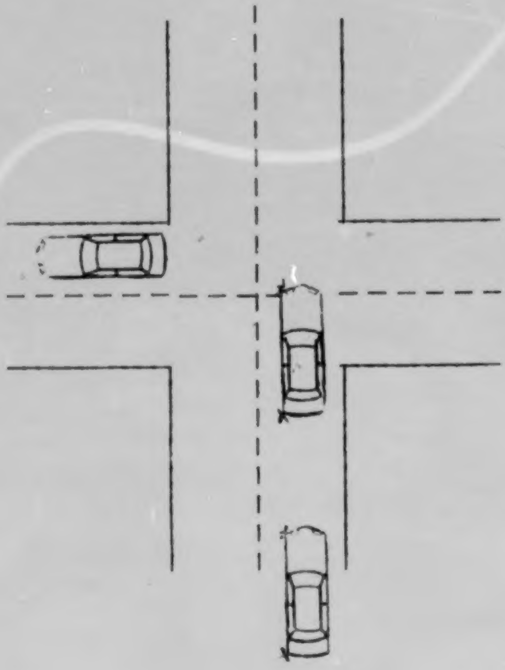


As the car begins to point in the direction you want to go, move your hands to the 10 and 2 position for firm control. Then begin to steer in the other direction to straighten the front wheels. This "countersteering" must be started before you reach the direction you want to go since it will take a few seconds for the steering wheel and the front wheels to straighten out. In some cars, you can loosen your grip slightly, and the steering wheel will straighten itself. However, if you do this, make sure you have control of the wheel at all times.

The shaded car in the diagram on the right shows about where your car should be when you begin to use the hand-over-hand steering method just described.

When making turns, you should slow before entering the turn, but always finish braking before starting the turn. Use slight acceleration while turning.

Procedures for turning (e.g., signalling, looking for other roadusers, adjusting speed) will be discussed in more detail during Unit 2 classroom. Then, you'll practice turning on the range.



REVIEW REVIEW CONTROL OF THE CAR REVIEW REVIEW

BEFORE YOU GET IN CAR

1. Check windows and lights.
2. Check tires for inflation and direction of front wheels.
3. Check for objects in path of car.
4. Unlock door.

BEFORE YOU START ENGINE

1. Put key in ignition.
2. Lock doors.
3. Adjust seat and head restraint.
4. Adjust rearview mirrors.
5. Fasten safety belts--both seat belt and shoulder harness.

STARTING ENGINE

1. Put left hand at top of steering wheel for control.
2. If engine is cold, set choke; if engine is warm, push down on accelerator part way.
3. Turn ignition switch to ON, then to START.
4. Check gauges.

MOVING CAR FORWARD

1. Put foot on brake.
2. Shift to Drive.
3. Release parking brake.
4. Take foot off brake.
5. Push down on accelerator slightly to move forward; keep pushing gently on accelerator to increase speed. Maintain speed with a steady, even pressure on accelerator.

SLOWING AND STOPPING CAR

1. Check traffic with rearview mirror.
2. Ease up on accelerator.
3. Apply brake.
4. Continue to apply pressure to brake until car stops.

SECURING THE CAR

1. Shift to Park.
2. Shut off all electrical accessories.
3. Shut off engine (Lock position).
4. Set parking brake.
5. Release safety belts.
6. Close windows and lock doors.

Review of "Steering" and "Turning" on next page.

REVIEW (continued)

STEERING

1. Place hands on upper half of steering wheel, above the the 9 and 3 o'clock position; grip wheel firmly.

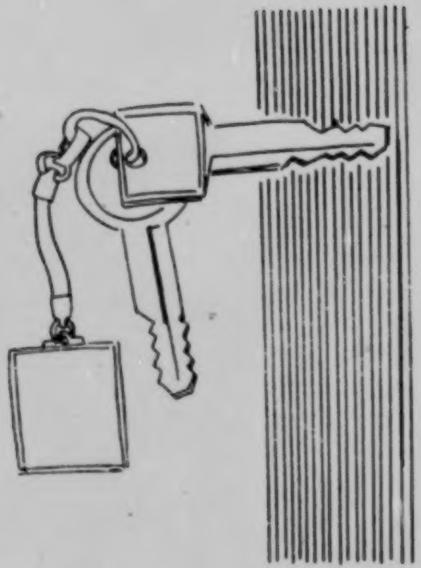
2. Make steering corrections when car begins to drift off course. As speed increases, make smaller steering corrections to avoid swerving.

TURNING

1. Use hand-over-hand steering technique for making left and right turns. Here is how to turn left:

   - Place hands at 10 and 2 o'clock position.
   - Begin turn by pulling down with your left hand and turning the wheel to the left with right hand.
   - Cross left hand over right and grip wheel with left hand.
   - Take right hand from wheel and continue turn with left hand. (Keep both hands on the wheel as long as possible for maximum control.)
   - Repeat these motions until car is in path you want. Make steering corrections as necessary.
   - Place hands again in 10 and 2 position and "countersteer"until steering wheel and front wheels are straight.

✓



CHECK POINT: TEST OUT YOUR UNDERSTANDING (2-1)

The purpose of this short test is to help you check your mastery of this LAP.

In the second classroom session for Unit 2, you will be given a more detailed test of the information in this LAP. This check point test should help you determine whether you are ready for the classroom test. When you think you understand the LAP, answer each of the questions below.

1. When using the starter switch, you should:

   a) Release the key as soon as the engine starts.
   b) Keep the switch on for several seconds after the engine has started.
   c) Turn the switch on and off quickly until the engine starts.
   d) Release it slowly and gradually.

2. To straighten your vehicle when completing a turn, you should begin to turn the wheel in the opposite direction:

   a) Before desired direction is attained.
   b) Just as you achieve desired direction.
   c) After desired direction is attained.
   d) Gradually throughout the entire turn.

REVIEW (continued)

STEERING

1. Place hands on upper half of steering wheel, above the the 9 and 3 o'clock position; grip wheel firmly.

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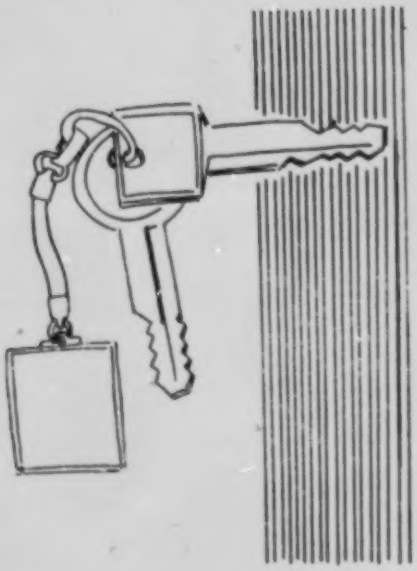

✓

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2. To straighten your vehicle when completing a turn, you should begin to turn the wheel in the opposite direction:

    a) Before desired direction is attained.
    b) Just as you achieve desired direction.
    c) After desired direction is attained.
    d) Gradually throughout the entire turn.

3. The best way to hold the steering wheel is:

   a) One hand on the rim; the other free to operate controls.
   b) One hand on a spoke; the other free to operate controls.
   c) Both hands on the spokes.
   d) Both hands on the rim.

4. The gear selector should be put in Park:

   a) As soon as you decide to park.
   b) When the car is almost stopped.
   c) When the car is completely stopped.
   d) Only on steep hills.

5. You should release the parking brake:

   a) Before you start the engine.
   b) Just after you start the engine
   c) Just after putting the vehicle in gear.
   d) When the vehicle begins to move.

6. When preparing to stop you should:

   a) Keep one foot on the gas and one on the brake.
   b) Take foot off gas and rest it on the floor until ready to apply brake.
   c) Place one foot on parking brake in case your regular brakes fail.
   d) Take foot from accelerator and place foot on brake near middle of brake pedal.

Check your own responses, using the answers provided at the bottom of page 5.

If you do not answer at least 5 of the 6 questions correctly, then:

(a) re-read the materials, and/or
(b) consult the alternative materials listed on the next page, and/or
(c) talk with your instructor

Things to Do On Your Own or in Guided Learning

If you're having problems with:		You can:
LAP 2-1 Knowing about things to do before you get in the car or starting the car...	→	Pair up with another student or work in groups and do Exercises 1 and 2 at the end of LAP 2-1. Use the simulator set up in the classroom and go through procedures with another student, using the checklist for the exercise you did in the simulator lab.
LAP 2-1 How to steer in a straight line or how to turn...	→	Your instructor might show film (16mm) from the simulator lab for this unit.

EXERCISE #1

Purpose:	This exercise is to help you review the order in which things need to be done before you drive the car.
Materials Needed:	This exercise sheet. Pencil or pen.
Time Required:	About 10-20 minutes
Instructions:	Below are 2 lists of items that should be done before driving the car. Mark the item that should be done first with a "1," the item that should be done second with a "2," etc.

Before You Start the Engine

Show the right order with 1, 2, 3, 4, 5.

___ Adjust rearview mirrors.

___ Lock doors.

___ Fasten safety belts.

___ Put key in ignition.

___ Adjust seat and head restraint.

Starting Engine

Show the right order with 1, 2, 3, 4.

___ Check gauges.

___ Set choke or push accelerator down part way.

___ Turn ignition to ON, then to START.

___ Put left hand at top of steering wheel.

Now try to explain your reasons for putting things in the order that you put them in.

Turn to page 5 to check your answers.

You will hand this exercise in during class.

EXERCISE #2

Purpose: This exercise is to help you practice all the things that need to be done before you start the car.

Materials Needed:
This exercise sheet.
Pencil or pen.
Helper (friend, parent, guardian).
Car or simulator.

Time Required: About 30-60 minutes.

Instructions: If you are doing the exercise with a car, be sure the car is in "park" and the parking brake is applied before beginning the exercise. At no time should the engine be started or running during this exercise.

Give this exercise sheet to your helper. The helper now reads these directions to the student:

> You are to assume that you are preparing to drive. Do all of the things that should be done up to the point of turning on the ignition. Do not actually start the car. As you perform each task, describe what you are doing out loud. This will make it clear to your helper what you are doing.

The helper now tells the student to "begin" and closely watches each item that the student does. As the student does each task, place a check (✓) in the appropriate box.

If the student doesn't do one of the tasks, don't check that box. Don't say anything until the student has finished all of his tasks up to the point of turning on the ignition.

	FIRST TRY	SECOND TRY	THIRD TRY
1. Check tire inflation--------------			
and direction of front wheels-----			
2. Check objects in path------------			
3. Unlock door----------------------			
4. Put key in ignition---------------			
5. Lock doors-----------------------			
6. Adjust seat and head restraint----			
7. Adjust mirrors--------------------			
8. Fasten and adjust seat belt and shoulder harness--------------			
9. Place left hand at top of steering wheel--------------------			
10. Set the choke/depress accelerator-----------------------			

After the student has done the exercise the first time, the helper should explain any errors that the student made. There are two main kinds of mistakes:

a. Forgetting to do an item.

b. Doing an item in the wrong order (for example, adjusting the mirrors before adjusting the seat).

Now you are ready for the second try. Ask the student to repeat the exercise again, saying out loud what he is doing in each step. As before, the helper silently checks the proper boxes as tasks are done. After this second try, explain any mistakes that student made. If he or she wants to try the exercise again, help him or her for a third time.

Signature of helper ____________________

EXERCISE #3

Purpose: This exercise is to help you locate controls and displays with speed and accuracy.

Materials Needed:

This exercise sheet
Helper (friend, parent, or tutor)
Pen or pencil
Car or simulator

Time Required: About 30-60 minutes.

Instructions: Give this exercise sheet to your helper, and let him or her read the instructions to you.

The student should sit in the driver's seat. The helper should sit next to him or her. In this exercise, the helper will say the name of a control or display.

When a control is named (light switch, brake pedal, etc.), the student should move that control. This should be done without looking at the control.

When a display is named (fuel gage, speedometer, etc.), the student will glance at the display, note it, and return eyes to the "road" ahead.

IMPORTANT! If this exercise is being done in a car, apply the parking brake before beginning the exercise. At no time should the engine be started or running during the exercise.

To the helper: Read an item from the list below. If the student does the right thing, place a check (✓) in the box under "First Try." If the student does not, go on to the next item. Go through the list until the student responds correctly to each item, and each box is checked. The student needs to do each item correcly 2 times.

Remember, when you name a control, watch to see if the student locates it correctly without looking down at the control.

When you name a display, watch the student's eyes to see if they move to the correct display and then return to the "road" ahead.

This is a list of controls. The student should be able to move them without looking at them.

	First Try	Second Try
Dimmer switch		
Signal left turn		
Turn radio on		
Apply brake		
Turn headlights on		
Signal right turn		
Foot on accelerator		
Turn on windshield wipers and washers		
Turn on defroster		
Turn on heater		

This is a list of displays. The student should be able to look directly at them and quickly return his eyes to the "road" ahead.

	First Try	Second Try
Speedometer		
Temperature warning lights		
Gasoline gauge		
Oil warning light		
Alternator warning light		
Bright light indicator		

Signature of helper ____________________

ADULT SUPERVISION EXERCISE

Purpose:	This exercise is to help you practice the procedures for moving, stopping, and securing the car.
Materials Needed:	This exercise sheet. Pencil or pen. Helper (parent or guardian--must be licensed driver) Car
Time Required:	About 40-60 minutes
Instructions:	Give this exercise sheet to your helper. He or she will use the checklist below to see if you can perform the procedures for moving, stopping, and securing the car. The teacher will collect the exercise during class.

Note to helper: This exercise should be done on an off-street area (e.g., parking lot). Before entering the car, the student should:

Check tires & direction of front wheels.

Check for objects in path of car.

Unlock car door.

(Remind student if he forgets any of these steps.)

Now the student should:

Put key in ignition.

Lock doors.

Adjust seat, head restraint, and mirrors.

Fasten seat belt and shoulder harness.

(Remind student if he forgets any of these steps.)

Now tell the student to START THE ENGINE. He or she should cover all of the steps listed below. You may check off each step as it is done. If the student forgets a step, or performs a procedure out of order, stop him and tell him what he has done wrong--then proceed.

- Put left hand at top of steering wheel. ☐
- Depress accelerator slightly. ☐
- Turn ignition switch to ON. ☐
- Release key when engine starts. ☐
- Check gauges. ☐

Now tell the student to MOVE THE CAR.

- Put foot on brake. ☐
- Move gear selector to DRIVE. ☐
- Release parking brake. ☐
- Remove foot from brake and apply accelerator. ☐

Now tell the student to SLOW AND STOP THE CAR.

- Ease up on accelerator. ☐
- Apply brake until car stops. ☐

Now tell the student to SECURE THE CAR.

- Put gear selector lever in PARK. ☐
- Turn ignition OFF. ☐
- Set parking brake. ☐
- Remove the key. ☐
- Take safety restraints off. ☐

Can the student perform the procedures for moving, stopping, and securing the car?

☐ Yes

☐ No

Comments: ______________________________

LEARNING ACTIVITIES PACKAGE 2-2

SIMPLE MANEUVERS

SAFE DRIVER COURSE

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WHAT HAPPENS IN THIS LAP

This LAP continues instruction in the basic controls for driving a car. You will learn in this LAP how to apply the tasks of accelerating, stopping, and steering, studied in LAP 2-1, to the maneuvers of backing, turning around, and parking. Beginning in the sixth range lesson for the course, you'll have the chance to practice these maneuvers.

WHY YOU STUDY THIS LAP

The material in this LAP tells you step-by-step how to parallel park and how to park in other kinds of parking spaces as well. It also tells you how to back correctly and how to turn the car around.

Before you learn more advanced skills, such as the complex emergency skills covered in Unit 7, you'll have to know basic control skills--accelerating, steering, and stopping the car. Learning how to back and park the car without difficulty is a way of developing these skills.

WHAT YOU NEED TO LEARN

A. Backing the car

1. Preparing to back.
2. How to back in a straight line.
3. How to turn left and right while backing.

B. Turning the car around

1. How to make a U-turn.
2. How to make a two-point turn.
3. How to make a three-point turn.

C. Parking

1. How to enter and leave a parallel parking space.
2. How to enter and leave an angle parking space.
3. How to enter and leave a perpendicular parking space.
4. How to park on hills.

BACKING THE CAR

1. Preparing to back.

The engine is on and the gear selector lever is in Park.

- Apply pressure to the brake pedal to keep the car from moving until you want it to move.
- Put your left hand at the top of the steering wheel (12 o'clock) to help you control the direction of the car.
- Check to the rear, then shift the gear selector lever to Reverse and release the parking brake. If you have to unfasten your shoulder harness to reach the parking brake release, be sure to refasten it.
- Look in all directions to see if anything is in the way, especially to the rear where the car will be moving. You won't get a good enough view by using the rearview mirrors. Look over both shoulders and directly to the rear through the back window. Then you'll have the widest possible view of the area behind the car.

To look through the rear window: Turn your body so that it faces to the right, put your right arm over the back of the seat, and turn your head so you can look through the rear window with both eyes. In turning to look through the rear window, be sure not to shift the wheel position to the right also.

2. Backing Straight.

- Look through the rear window, but glance quickly to the front, too.
- Take your foot off the brake pedal and push down on the accelerator slightly until the car starts to move backwards.
- Now let up on the accelerator completely and let the car move slowly backward by itself. If the car moves too fast, control the speed by applying the brake pedal.

3. Turning While Backing.

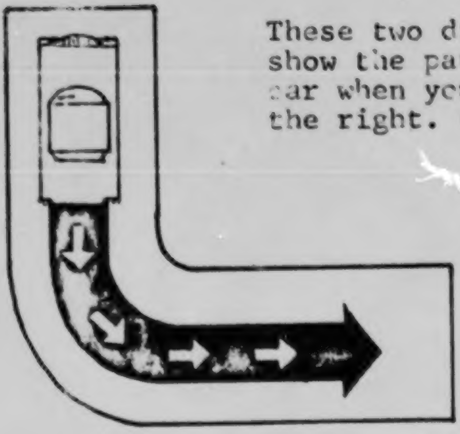
To turn while backing, about all you do is add a little steering to the procedures for backing straight.

- Position your body the same way.
- Check the front to see if your fenders will clear everything close to the path the car will take.
- Maintain the same slow speed.

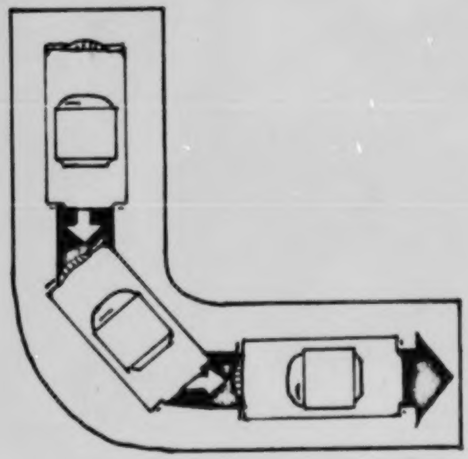
- Turn the top of the steering wheel with your left hand in the direction you want to go. Turn gradually and slightly, not quickly or sharply, or you may lose control of the car.

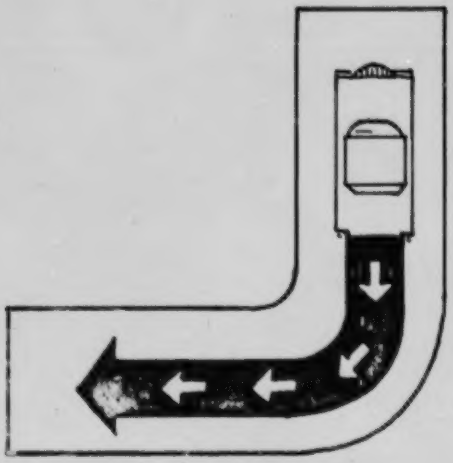
4. Stopping After Backing.

To stop at a designated place, press gently on the brake pedal until you stop. Then move the gear selector lever from Reverse to Park.

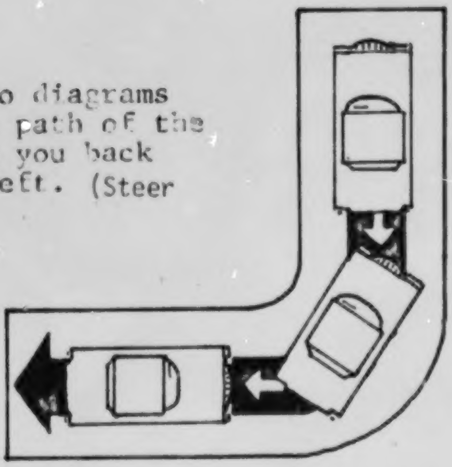


These two diagrams show the path of the car when you back to the right. (Steer right)

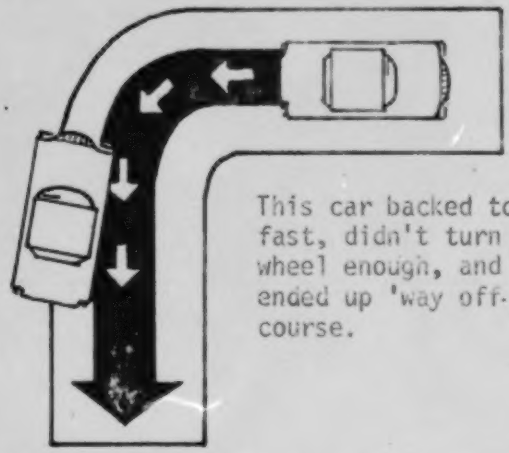




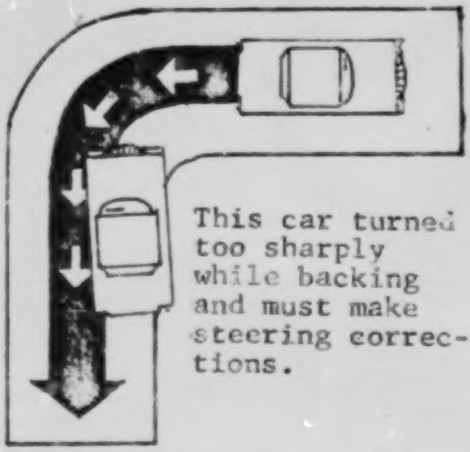
These two diagrams show the path of the car when you back to the left. (Steer left)



Can you tell from these diagrams what each driver did wrong? The answers are with the diagrams.



This car backed too fast, didn't turn the wheel enough, and ended up 'way off-course.



This car turned too sharply while backing and must make steering corrections.

SUMMARY OF BACKING PROCEDURES

General Points to Remember

- Check traffic in all directions, especially behind.
- Avoid sharp, quick movements of steering wheel.
- Move slowly.

Preparing to Back

- Apply brake; place left hand at top of steering wheel to control car.
- Shift to Reverse; release parking brake.

Backing Straight

- Glance quickly toward front, then look through rear window.
- Take foot off brake.
- Push down on accelerator until car starts to move backward, then let up on accelerator completely and let car move slowly backward by itself.
- Control speed by pressing and releasing brake pedal.

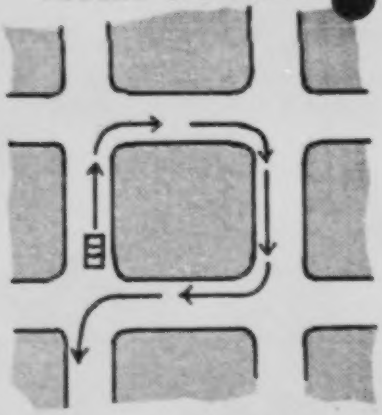
Turning While Backing

- Position body for best view through back window.
- Turn steering wheel with left hand in direction you want to go. Avoid quick, sharp steering movements.
- Check to front for clearance with other cars.

Stopping after Backing

- Press brake pedal gently until you stop at desired place.
- Shift to Park.

Around the Block



Driving around the block is usually the safest way to turn around.

TURNING THE CAR AROUND

The safest, and often the fastest, way to turn around is to go around the block. But this can't be done all the time. Maybe you're approaching a dead end or one-way street. So you should learn the next best ways of reversing the direction of the car. There are three methods:

- U-turn.
- Two-point turn.
- Three-point turn.

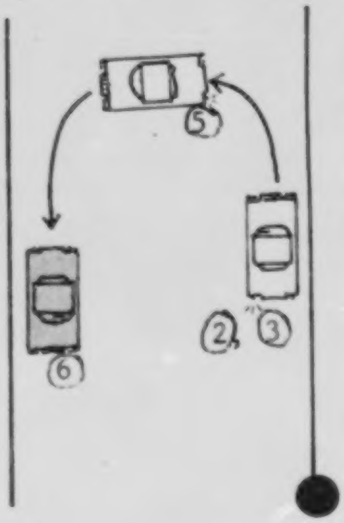
U-Turn

A U-turn is the easiest of the three kinds of "turn-abouts," but many states or communities prohibit this kind of turn. If it is legal, select carefully the place to make the U-turn. The place should not be congested, nor should it be near hills or curves because oncoming traffic would not be able to see you. The best place is a wide street without much traffic where you can turn around in the middle of the block. Intersections are roomy enough, but U-turns at intersections are dangerous and often illegal.

To make a U-turn:

1. Signal that you're going to stop, and check traffic in your rearview mirrors.
2. Bring the car to a stop alongside the right curb.
3. Signal for a left turn.
4. Look in all directions to see if it is safe to turn. Wait until the way is clear.
5. Move forward slowly, turning the steering wheel rapidly to the left.
6. Complete the turn in the right hand lane.

U-Turn

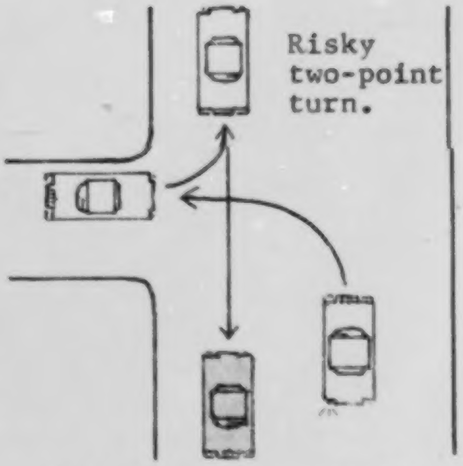


ANSWERS TO CHECK POINT TEST: 1. = b; 2. = b; 3. = c; 4. = d; 5. = b; 6. = c

Two-point Turn

Two-point turns are made by turning left or right into a driveway or alley. It's best to avoid turning left to change direction. Why? Because you have to first turn across the path of oncoming vehicles and then back up into a lane used by oncoming traffic.

The safest two-point turn uses a driveway on the right. You should back into the driveway, not drive forward into it.

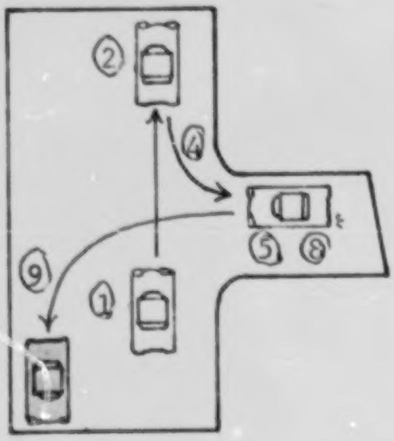


This kind of two-point turn, which cuts across path of oncoming cars, is more dangerous.

To make the most safe two-point turn:

1. Approach the driveway,two or three feet from the right curb, and signal that you're going to stop.
2. Drive past the driveway until the rear bumper is just beyond the driveway and stop. Don't forget to check traffic with your rear-view mirrors before stopping.
3. Shift to Reverse, and check traffic in both directions.
4. Let off the brake and back up slowly, turning the steering wheel rapidly to the right so that the rear of the car goes into the right-hand side of the driveway. If visibility is limited, use the horn.
5. With the car still moving slightly, straighten the front wheels quickly. Make sure the front of the car is clear of the traffic lane so that there is no danger of being struck by another vehicle.
6. Stop the car and shift to Drive.
7. Check traffic in all directions.
8. Turn on the left turn signal.
9. When the way is clear, make your left turn; then enter traffic lane.

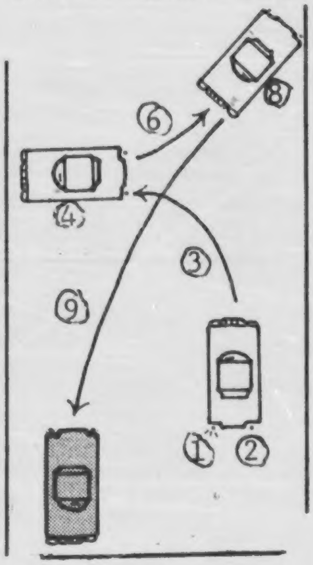
Safest Two-Point Turn



Three-Point Turn

A three-point turn (or Y-turn) is made when the street is too narrow for a U-turn. It requires more maneuvering than a U-turn or two-point turn. This means you must check traffic very carefully.

Three-Point Turn



To make a three-point turn:

1. Signal for a stop, then come to a complete stop at the far right side of the street. Don't forget to check traffic to the rear before stopping.
2. Look carefully in both directions, and then signal for a left turn.
3. When the way is clear, move the car forward slowly and at the same time, turn the steering wheel rapidly to the left.
4. When you're about 4-5 feet from the curb, brake gently, quickly straighten the steering wheel by turning it to the right, and stop before your front wheels touch the curb.
5. Shift into Reverse and check traffic all around.
6. Back up slowly toward the opposite curb as you turn the wheel rapidly to the right.
7. When you are 4-5 feet from the curb behind you, brake gently and straighten the steering wheel rapidly. As you approach the curb watch for trees, fire hydrants, or other objects that you could hit if you back too close to the curb.
8. Come to stop near the curb.
9. Shift to Drive, check for traffic again, then move forward in the right lane.

Review these general points about turning around:

1. Choose the safest way to turn around for the occasion.
   - All three methods for changing direction, except for driving around the block, involve moving across traffic lanes. This exposes you to oncoming traffic.
   - A two-point turn using a driveway on the right is safer than one using a driveway on the left.
   - A three-point turn takes longer and exposes you to other traffic for a longer period of time.
2. Choose the safest location to turn around.
   - Avoid streets with hills and curves, and streets with lots of traffic.
   - Make sure you can see and be seen.
3. Make sure the way is clear at all times.
4. Move slowly and turn the steering wheel rapidly.

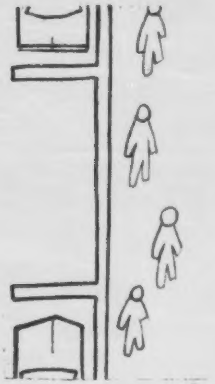
PARKING

As you look for a place to park, keep these three points in mind:

- Don't block traffic behind you by driving too slowly or waiting for a space to become vacant.
- Watch for signs and markings that tell you whether parking is legal.
- Avoid places where parking is illegal, such as near fire hydrants, traffic controls, intersections, railroad tracks, and across driveways.

There are three kinds of parking spaces:

Parallel space



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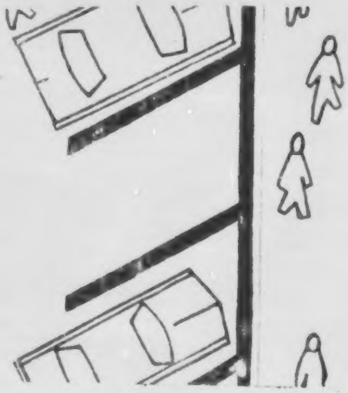
Angle space



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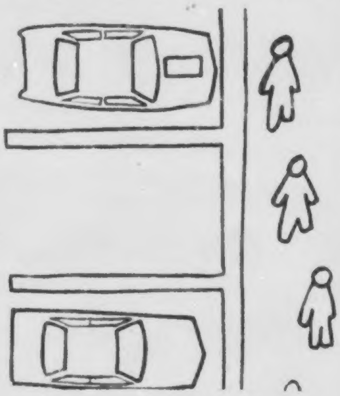
Perpendicular space



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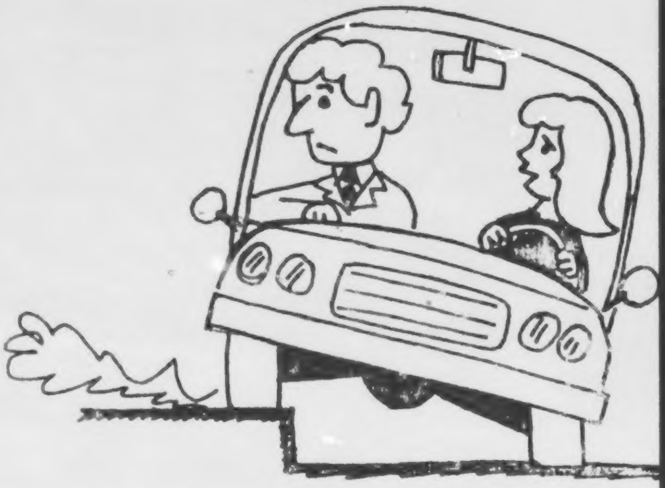
Parallel Parking

When you take your test for a driver's license, you will probably have to show the license examiner that you can park your car in a parallel parking space.

The steps for parallel parking, with diagrams to help you understand, start on the next page.

NOTE: The numbers of the procedures correspond to the numbers in the diagrams.



AM I CLOSE ENOUGH?

Parallel Parking (continued)

1. Check for traffic in your rearview mirrors. If a car behind you is following too closely, find another space. Stopping suddenly with a car directly behind you may result in a rear-end collision.

2. Give the hand signal for slowing down (especially if traffic is heavy), and put on your turn signal to warn other drivers that you intend to park. If traffic permits, wave cars behind you to go around.

3. In heavy traffic, it's usually best to stop even with the car which is behind your parking space (See diagram A,③) with your turn signal on. This will warn drivers to the rear to go around, or to wait until you have entered the parking space.

4. Make sure the space is large enough for your car.

5. Pull up until your car is about two or three feet to the left of the car in front of your parking space. (See Diagram A,⑤) Your rear bumper should be about even with the rear bumper of the car next to you.

6. After checking again for rear traffic, shift into Reverse.

7. Look over your right shoulder and out the back window.

8. Using the proper backing procedure (page 3), back the car slowly while turning the steering wheel sharply to the right. Watch for cars from both directions, because the front of your car may move slightly into the next lane during this part of the parking procedure.

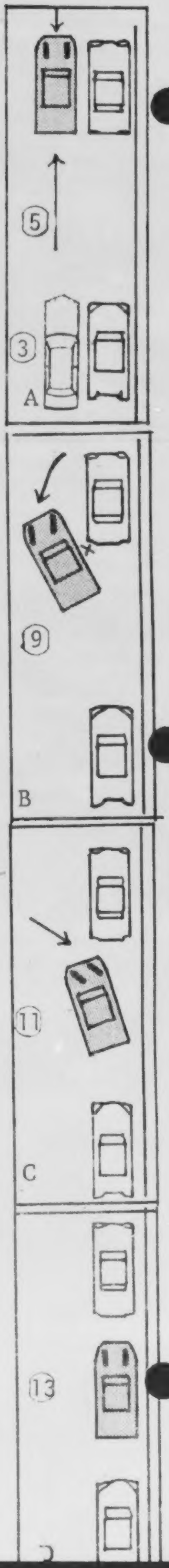
9. Begin to straighten the front wheels when the driver's seat is in line with the rear of the car ahead of your parking space. (See Diagram B.)

10. Check to make sure that your car will clear the car parked in front of the space.

11. Look back, continue to back slowly, and turn the steering wheel sharply to the left when your car clears the car in front of you. (See Diagram C.)

12. When you think you are parallel with the curb, turn the steering wheel rapidly to the right to straighten the wheels. Stop before touching the vehicle behind.

13. Shift to Drive, and center the car in the parking space. You should be about a foot from the curb. (See diagram D.)



Leaving a Parallel Parking Space

When you leave a parallel parking space, you will enter a lane of moving traffic. Throughout this entire procedure, you must check traffic in both directions very carefully--especially to the rear. When you know it is safe to leave the parking space:

1. Check traffic to the rear and go straight back until your car almost touches the bumper of the car behind you. This will give you as much room as possible for getting out of the parking space.

2. Signal that you are leaving the parking space.

3. To avoid hitting the car in front, move forward slowly while turning the steering wheel sharply to the left until you're about half way out of the parking space.

4. Make sure your car will clear the car parked in front.

5. Start turning the steering wheel to the right so the front of your car doesn't enter the next lane. Don't steer too far to the right or you may sideswipe the car parked in front of the space.

6. Accelerate slowly into the traffic lane.

REMEMBER: Keep a careful check on traffic at all times when you're leaving a parallel parking space. You will need "extra" time if the parking space is a tight one.

ANGLE PARKING

* Entering an Angle Parking Space on the Right

A secret to parking at an angle is to move very slowly. This gives you time to stop and make the necessary steering corrections if you see that you may scrape another car.

1. Look in all directions. Check for other cars leaving parking spaces. Use your inside rearview mirror to look behind.

2. Signal to other drivers that you plan to turn right.

3. Position the car five to six feet from the rear of the parked vehicles on your right.

FROM HERE ON, you can follow the procedures more easily if you look at the diagram on the next page. Pick up with step 4 and relate it to the diagram. The step numbers refer to the numbers on the diagram.

---

* When entering an angle parking space on the left, reverse the turning procedures, (i.e., instead of turning to the right, turn to the left).

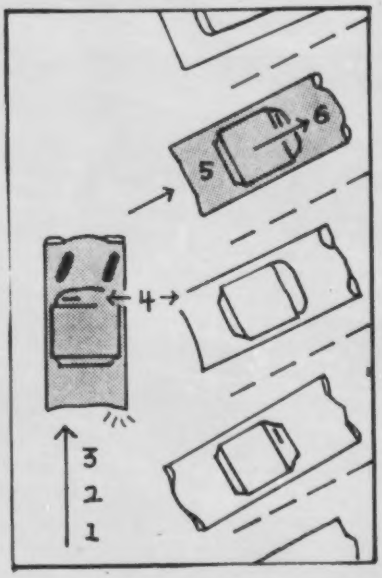
4. When your windshield is lined up with the left rear corner of the car you're going to park beside, turn the steering wheel sharply right. Then move the car slowly into the parking space midway between the lines. Check over your right shoulder to make sure your car will clear the car on the right.

5. Straighten your wheels so that the car faces directly forward in the parking space. Be careful not to scrape the cars parked on either side of you. This will not happen if you move very slowly.

6. With your foot on the brake pedal, move the car to the front of the parking space. Get the right front tire as close to the curb as possible. Then you will know that you are at the end of the parking space and fairly safe from being struck in the rear by another driver.

7. Secure the car.

Entering Angle Space



Leaving Angle Parking Space on Right

To leave an angle parking space you normally have to back out. So before you get in the car, make sure there isn't anything behind the car. Also, make sure your wheels are straight so that when you start to back out you will back out straight and won't hit a car parked beside you. Get into your car and then. . . .

1. Check for approaching traffic and traffic behind. If clear, shift into Reverse.

2. Back out slowly until your rear bumper is even with the bumper of the car on your right. (See diagram at right for this and following steps.) Stop and check carefully for traffic, even if you have to peek through the windows of the car on your right.

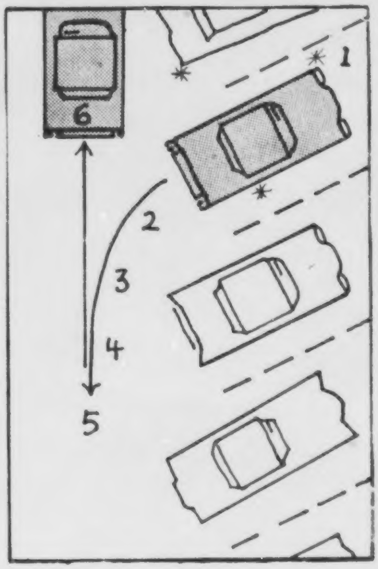
3. Start moving backward again, and begin turning the steering wheel slowly to the right, using the hand-over-hand technique. Look over your right shoulder in the direction the car is turning. But keep an eye out for other vehicles toward the front, too.

4. Continue to turn slowly right, taking care not to scrape cars on either side. Be sure that your front left fender clears the right rear fender of the car on your left; and that your right rear door clears the car on your right. These are trouble spots for both entering and leaving angle parking spaces. (See * in diagram.)

5. Straighten wheels by turning steering wheel to the left. Stop car and shift to Drive.

6. Accelerate forward.

Leaving Angle Parking

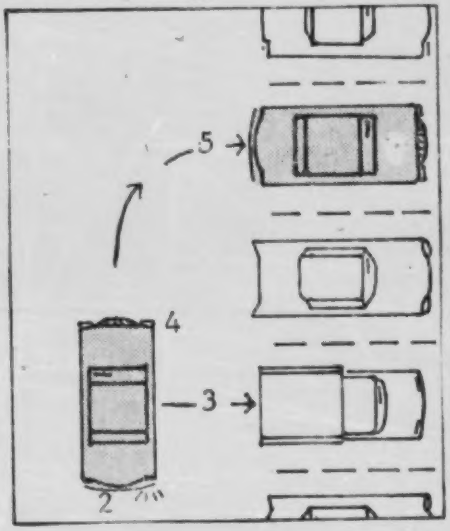


PERPENDICULAR PARKING

* Entering Perpendicular Parking Space on the Right

Here are the steps for entering a perpendicular parking space. Look at the diagram on the right as you read these procedures.

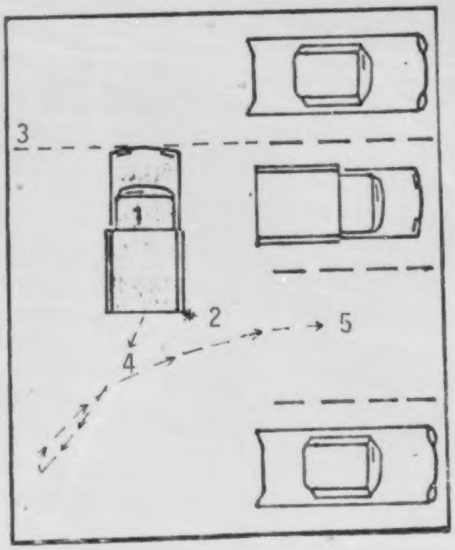
Entering Perpendicular Space



1. Check for traffic behind you with your rearview mirrors.
2. Signal to other drivers that you intend to turn.
3. Position your car about eight feet away from the cars already parked on your right.
4. When your front bumper passes the first taillight of the car on the right of the open parking space, turn the steering wheel sharply to the right. Enter the parking space slowly.
5. Center the car in parking space.

Procedures for Leaving a Perpendicular Parking Space are the same as those for Leaving Angle Parking Space. (See page 12.)

Sometimes there is not enough space available to enter a perpendicular parking space in the above manner. When this is the case, use the following procedure. Study the diagram as you read the material.



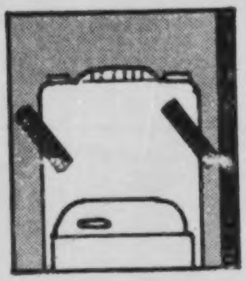
1. Check for traffic behind you with rearview mirrors.
2. Signal for a right turn.
3. Drive past your parking space until your front bumper is even with the far side of the next parking stall.
4. Back up while turning the steering wheel sharply to the left. This will turn the rear of your car away from your parking space, and will point the front of the car toward the parking space.
5. Pull forward and center the car in the parking space.

---

* When entering a perpendicular parking space on the left, reverse the turning procedures (i.e., instead of turning to the right, turn to the left).

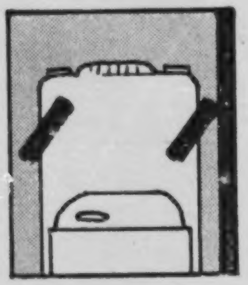
PARKING ON HILLS

When parking on hills, you must take precautions to prevent the car from rolling in the event the brakes and/or gear position of Park should fail to hold the car. The direction you turn your front wheels when you park on a hill will help hold the car in position. The following diagrams will help you understand how to turn your wheels in relation to the grade where you park.



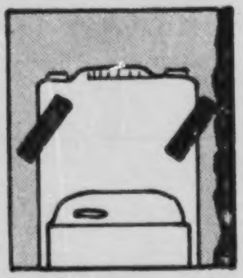
Unhill with a Curb.

Turn the front wheels to the left. Why? If your car should start to roll, it will roll into the curb.



Downhill with a curb.

Turn the front wheels toward the curb. Why? If the car should start to roll, the curb will stop it.



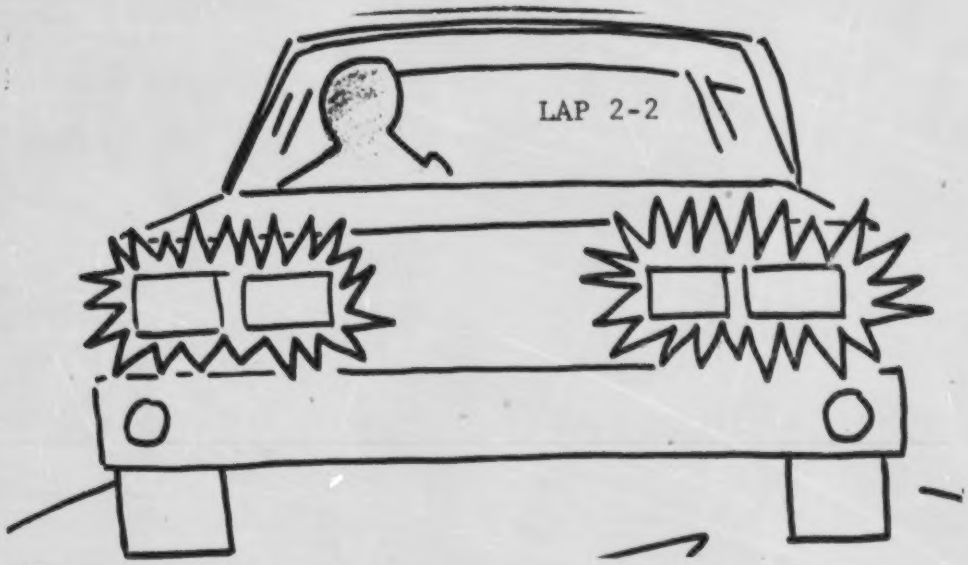
Uphill or downhill with no curb.

Turn your wheels to the right. If your car should start to roll, it will roll away from the street.

After parking, apply the parking brake, then shift to Park. By applying the parking brake before you shift to Park (which is the opposite of the way you do it when you park on level ground), you reduce the strain on the transmission. Also, you will keep the car from lurching when you take the gears out of Park.

end

✓



CHECK POINT: TEST OUT YOUR UNDERSTANDING (2-2)

The purpose of this short test is to help check your mastery of this LAP.

On the last day that LAP 2-2 is dealt with in the classroom, you will be given a more comprehensive test on the LAP. This self-test will help you determine whether you are ready for the classroom test.

When you think you understand the LAP, answer each of the questions below. On scratch paper, write the letter that you think is most correct.

1. The best way to be sure that it is safe to back up is to:

   a) look out the left side window
   b) look directly out the rear window
   c) look into the rearview mirror
   d) blow the horn and wait a few seconds

2. When you are making a U-turn:

   a) Turn in one movement as quickly as possible.
   b) Check rear traffic when you start in your new direction.
   c) Blow your horn to warn all traffic to slow down and wait.
   d) Only use hand signals during the turn.

3. Before you begin to back into a parallel parking space, you should:

   a) Get out of your vehicle and check for objects behind your vehicle.
   b) Put on your 4-way flashers to warn other vehicles.
   c) Signal any following traffic to pass you when possible.
   d) Open your door and look for traffic behind you.

4. When turning right into an angle parking space, which points on your car are the most likely to strike other cars?

   a) left and right front fenders
   b) right front fender and right rear door
   c) left front fender and left rear door
   d) left front fender and right rear door

5. The correct order of operations when backing up is:

   a) Check to the rear, make sure car is stopped, shift into reverse, position yourself to look out rear window.
   b) Make sure car is stopped, check to the rear, shift into reverse, position yourself to look out rear window.
   c) Shift into reverse, make sure car is stopped, look to the rear.
   d) Look to the rear, shift into reverse, make sure car is stopped.

6. If you park along the right-hand curb facing uphill, you should:

   a) Keep the front wheels straight.
   b) Turn the front wheels to the right.
   c) Turn the front wheels to the left.
   d) Keep the back wheels away from the curb.

Check your own answers, using the answers provided at the bottom of page 6.

If you do not answer at least 5 of the 6 questions correctly, then:

(a) re-read the materials, and/or
(b) consult the alternative materials listed on the next page and/or
(c) talk with your instructor

Things to Do On Your Own
or in
Guided Learning

If you're having problems with:	You can:
LAP 2-1 Knowing about things to do before you get in the car or starting the car...	Pair up with another student or work in groups and do Exercises 1 and 2 at the end of LAP 2-1. Use the simulator set up in the classroom and go through procedures with another student, using the checklist for the exercise you did in the simulator lab.
LAP 2-1 How to steer in a straight line or how to turn...	Your instructor might show film (16mm) from the simulator lab for this unit.
LAP 2-2 Backing...	Look at "Backing Safely" filmstrip. Study it carefully and try to answer questions asked on the filmstrip as you go. The correct answers will be given as you watch the film strip.
LAP 2-2 Angle Parking or U-turns...	Look at "Angle Parking and Turning Maneuvers" filmstrip. Study it carefully and try to answer the questions asked on the filmstrip as you go. The correct answers will be given as you watch the filmstrip.

Name: ____________________
Group #: __________________

ADULT SUPERVISION EXERCISE

Note: All States require that you be of a certain age to drive with your parent or any other licensed driver. Some States require a special permit to drive with anyone other than your teacher. Don't do this exercise unless you meet the requirement for the State in which you live.

Purpose: This exercise is to help you practice the procedures for backing and parking.

Materials Needed:
This exercise sheet.
Pencil or pen.
Helper (parent or guardian--must be licensed driver).
Car.

Time Required: About 40 - 60 minutes.

Instructions: Give this exercise sheet to your helper. He or she will use the checklists below to see if you can perform the procedures for backing and parking the car. Show this exercise sheet to your teacher when you discuss your progress chart.

Note to helper: This exercise should be done on an off-street area (e.g., parking lot). The student should check direction of front wheels and check for objects in path of car before entering car. Then--put key in ignition, lock doors, adjust seat, head restraint, mirrors, and fasten seat belt and shoulder harness. The student should follow the same procedures for "starting the engine" as practiced in the adult supervision exercise for LAP 2-1.

BACKING THE CAR

Tell the student to BACK THE CAR. Make sure that no other traffic is present in the area. The student should cover all of the steps listed below. You may check off each step as it is done. If a step is forgotten, or done our of order, stop the student and tell him what he has done wrong--then proceed. Repeat this portion of the exercise until the student can back the car properly.

Put left hand at top of steering wheel ☐
Apply brake. ☐
Shift to REVERSE and release parking brake. ☐
Check for traffic in all directions. ☐

Place right hand on back of front seat and look through rear window. (Student should keep looking backwards until car has come to a complete stop.) ☐

Release brake slowly; apply accelerator slightly (if needed). (Brake to control speed of car.) ☐

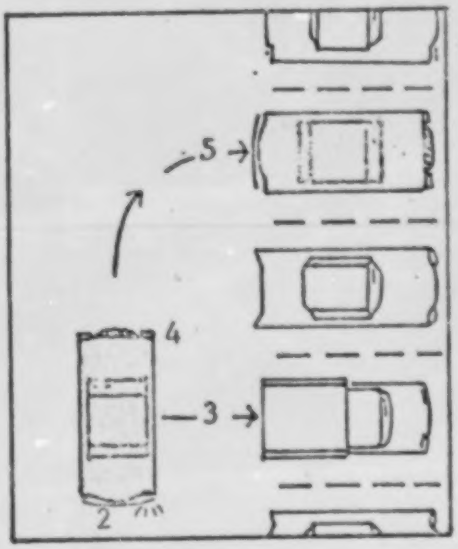
Move slowly and avoid sudden movement of steering wheel. ☐

Press brake gently to stop. ☐

Shift to PARK. ☐

PERPENDICULAR PARKING

Again, make sure that no other traffic is present in the area. The numbers shown on this diagram correspond with the steps listed below for "Entering a Perpendicular Parking Space." The student should cover all of the steps for "Entering and Leaving a Perpendicular Parking Space." If a step is forgotten, or done out of order, stop the student and tell him what he has done wrong--then proceed. Repeat this portion of the exercise until the student can park properly.



ENTERING A PERPENDICULAR PARKING SPACE

1. Check for traffic behind you with your inside rearview mirror. ☐
2. Signal to other drivers that you intend to turn. ☐
3. Position your car about eight feet away from the cars already parked on your right. ☐
4. When your front bumper passes the first taillight of the car on the right of the open parking space, turn the steering wheel sharply to the right. Enter the parking space slowly. ☐
5. Center the car in parking space. ☐

LEAVING A PERPENDICULAR PARKING SPACE

Check traffic to the rear and vehicles on both sides of the car. ☐

Back up slowly (keep watching for traffic while backing). ☐

Begin turning the steering wheel to the right (as sharply as necessary to go in the desired direction) when certain that car will clear other parked vehicles. ☐

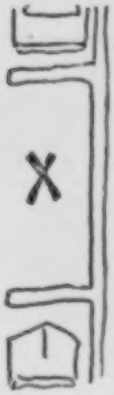
Straighten the steering wheel (check clearance) to enter traffic lane. ☐

Stop when the car has fully entered the traffic lane. ☐

Shift to "Drive" and accelerate. ☐

PARALLEL PARKING

Note to helper: Do not proceed with this portion of the exercise until you feel the student is capable. (He or she should have successfully completed maneuvers for "controlling the car"—refer to the student's Progress Chart, LAP 2-1.) Cars should be positioned as shown in the diagram. The student will park in the space marked "X." Ensure that other traffic is not present in the area.



The student should cover all of the steps listed below. Check off each step as it is done. If the student forgets a step, or performs a procedure out of order, stop him and tell him what he has done wrong--then proceed. (Most students will need additional practice in parallel parking. Therefore, it's not necessary for the student to perform this maneuver perfectly.)

ENTERING A PARALLEL PARKING SPACE

Check traffic and give right signal ☐

Pull up about 2 feet away (and parallel) to the car ahead of the space (rear bumpers even). ☐

Check traffic. ☐

Shift to reverse. ☐

Turn wheel sharply to the right while backing slowly. (Check over right shoulder while backing.) ☐

Straighten wheels when you are in line with the rear of the car ahead. ☐

Check clearance. ☐

Continue to back slowly, turning wheel sharply to the left. ☐

When the car's front bumper is opposite the rear bumper of the car ahead, check fender for clearance. Continue backing, turning the wheel to the left. ☐

Begin straightening wheels as you enter space. ☐

Shift to drive and center car in parking space. (Wheels should be about 12 inches from the curb.) ☐

Shift to park. ☐

LEAVING A PARALLEL PARKING SPACE

Back slowly and stop just before hitting car behind you. (Turn wheels left just before you stop.) ☐

Signal. ☐

Check traffic over left shoulder. ☐

Move forward, turning wheel sharply to the left. ☐

Check right front fender to be sure it will clear the car ahead of you. ☐

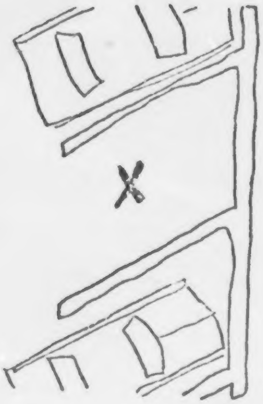
Enter nearest lane, checking traffic as you leave the space. ☐

Straighten wheels. ☐

(If there is time, proceed with the "Angle Parking" portion of the exercise.)

ANGLE PARKING

Make sure that no other traffic is present in the area. Cars should be positioned as shown in the diagram. The student will park in the space marked "X." The student should cover all of the steps listed below for "Entering and Leaving an Angle Parking Space." Check off each step as it is done.



ENTERING AN ANGLE PARKING SPACE

Check traffic and signal right. ☐

Position car 5 - 6 feet from right rear of the vehicle on your right. (Or--get as far to the left in your lane as you can; your windshield should be lined up with the left rear corner of the vehicle on your right.) ☐

Steer sharply right, moving slowly and checking clearance. ☐

Straighten wheels, centering car in space. ☐

Keep foot on brake pedal and move forward until car is in space. ☐

Shift to park. ☐

LEAVING AN ANGLE PARKING SPACE

Signal. ☐

Move car straight back--slowly. ☐

Check traffic (when car is out far enough for driver to see)--stop and check both left and right. ☐

When clear, continue backing. (Look over right shoulder in direction the car is turning; keep an eye out for other drivers toward the front.) ☐

When left front fender clears the car on the left, turn wheels sharply to the right. (Use hand-over-hand steering.) ☐

Back into the lane you will be traveling in, and straighten the wheels (by turning left) before stopping. ☐

Stop the car, shift to "Drive" and move forward, re-checking mirrors for traffic behind. ☐

How well can the student perform the procedures for "backing?"

☐ Good

☐ Fair

☐ Poor (Needs more practice in ________________________________.)

How well can the student perform the procedures for "perpendicular parking?"

☐ Good

☐ Fair

☐ Poor (Needs more practice in ________________________________.)

How well can the student perform the procedures for "parallel parking?"

☐ Good

☐ Fair

☐ Poor (Needs more practice in ________________________________.)

How well can the student perform the procedures for "angle parking?"

☐ Good

☐ Fair

☐ Poor (Needs more practice in ________________________________.)

Comments: ____

____

Signature of helper: __________________

UNIT 3

NORMAL DRIVING

LAP 3-1 OBSERVING

LAP 3-2 COMMUNICATING

LAP 3-3 CONTROLLING SPEED

LAP 3-4 POSITIONING

LEARNING ACTIVITIES PACKAGE 3-1

OBSERVING

SAFE DRIVER COURSE

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WHAT HAPPENS IN THIS LAP

In this LAP, you'll learn to observe what's going on outside the car that will affect the way you drive. You will learn where to observe, what to observe, and when to observe.

To observe the driving scene, you will watch, check, look, notice, expect, see--and even listen.

Observing is the first of the four principles for normal driving you will study in Unit 3. The other principles are Communicating, Adjusting Speed, and Positioning. You will learn to apply what you have studied in this LAP to real traffic situations during Unit 3 classroom sessions; then you will apply the principles when you drive.

WHY STUDY THIS LAP

We've all had the experience of being a passenger in a car when the driver has had a close call and had to slam on his brakes. The first thing this driver probably said was, "I didn't see him until he was right in front of me!"

The reason for a near miss like this, and a factor in many accidents is just what this driver said: "I didn't see him." And the reason he didn't see the other driver was probably because he wasn't observing properly.

This is why you study this LAP--to learn how to observe the road on which you're driving and the other users of the road. The better observer you are, the better driver you'll be.

WHAT YOU NEED TO LEARN

1. Where to Observe
   a. Well ahead of the car
   b. All around the car
2. What to Observe
   a. Traffic signs, signals, and roadway markings.
      (1) Signs that control traffic.
      (2) Signs that give warnings
      (3) Markings on the road which provide guidance or warning.
      (4) Signs that provide guidance.
      (5) Signs that indicate services.
   b. The road ahead.
      (1) Shape of road.
      (2) Surface and condition of road.
      (3) Road shoulders.
   c. Other traffic.
      (1) Where your road crosses or meets another street or roadway.

(2) When other cars enter the roadway.
(3) When you enter the flow of traffic.
(4) When you change your position on the roadway.

OBSERVING

When you drive a car, you have to watch for everything that is happening outside the car. This procedure of watching the roadway carefully and keeping a sharp eye out for other road users is called OBSERVING.

WHERE TO OBSERVE

You have to observe the driving scene to drive safely. And the driving scene is two places:

1. Well ahead of the car.
2. All around the car--in front, in back, and on both sides.

1. Observing Well Ahead of the Car

No one should have to tell you to "look ahead." After all, "ahead" is where you're going, and you have to look where you're going when you drive. The important thing is to look far enough ahead. Beginning drivers have a tendency to look right in front of the car. It takes practice to overcome this tendency and to get into the habit of looking far enough ahead.

How far ahead is "far enough"? The rule is to look far enough to have time to react to anything in the driving scene that may affect what you do as a driver. Maybe it will be a bend in the road, for example, or another car, or a traffic signal. Remember to be aware of things near your vehicle too. But look far enough ahead:

- To be able to observe if there is something important ahead; then
- To have time to decide what to do about it; and finally,
- To do what you decided to do.

How far is "far enough" in terms of distance? At city speeds of 25-30 miles per hour, "far enough" is about one block. This means that in order to have time to react properly, your eyes should be looking about a block ahead. To put it in terms of a practical measure, since all of us have different ideas on how long a block is, this distance can be measured by about 12 seconds of travelling time. You should be observing everything taking place within the 12-second time span. How do you figure 12 seconds or travelling time? By saying to yourself as you're driving, "1, one-thousand, 2, one-thousand, 3, one-thousand, etc." 'till you get to "12, one-thousand." You can practice counting seconds when you're riding in the car with your parents or a friend. You can also practice this later in the course when you're driving on-street with your instructor. After some practice, you'll be able to tell how far ahead 12 seconds is without counting.

Out on the highway, of course, you drive much faster. So at 55 miles per hour, you will need to look ahead about a half a mile (or 6 blocks)--maybe even further, to have time to react. Remember that this distance, although longer than when you're driving 25 miles per hour, is still about 12 seconds ahead of your car. So, no matter what speed you're going, always be looking 12 seconds ahead.

2. Observing All Around the Car

A good driver looks 12 seconds ahead to give himself plenty of time to anticipate the actions of other road users. A good driver also looks to the left and right of the car. This is where traffic signs are located. And they provide information as to what's ahead. The movement of cars and pedestrians from either side is also important. These things are not in your path now, but in the next second they very well could be.

And finally, a good driver looks to the rear by quickly glancing into his rearview mirrors. Cars behind you become important if you decide to slow down or change direction because of the chance of a rear-end collision.

If you are to see things in time to react properly to them, you must "scan" the scene around you. Scan means to glance quickly. By scanning around you and by looking far enough ahead, you observe the entire driving scene.

WHAT TO OBSERVE

In order for the principle of Observing to be of any help, you have to know what to look for. Things happen very quickly on the roadway, and you have to learn to observe and scan very quickly to give yourself some reaction time.

There are three big items to be observed when you're driving:

1. Traffic signs, signals, and roadway markings.
2. The road ahead.
3. Other traffic and other roadusers.

1. Observing Traffic Signs and Signals

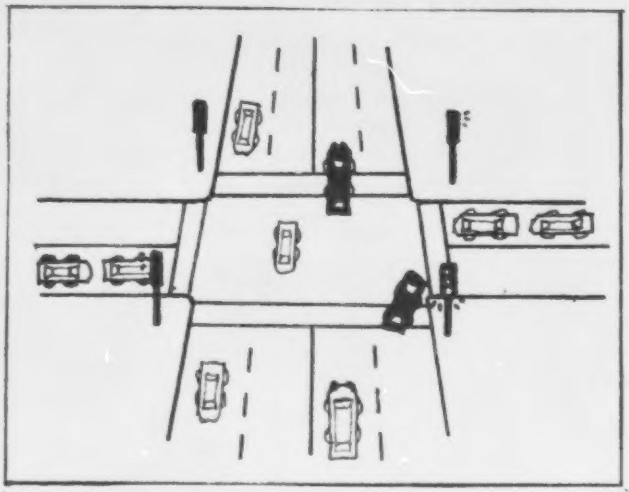
To be a good driver, you need good information. You need information about road conditions, directions for finding the places you want to go, where it is safe to go, and so on. Most of this information is provided by signs and signals that are set up along the roadway. These signs and signals are of four general types:

- Those that control traffic.
- Those that give warnings.
- Those that provide guidance.
- Those that indicate services.

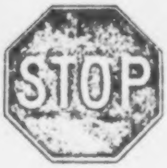
Signs that Control Traffic

If you had the roadway entirely to yourself, traffic controls would not be necessary. However, with so many drivers on the road at one time, traffic must be carefully controlled to keep drivers from interfering with, or running into, each other.

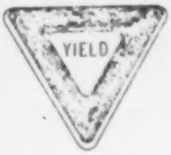
CONTROLS AT INTERSECTIONS



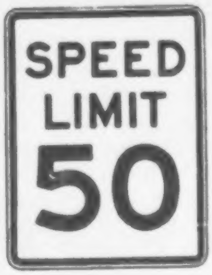
Probably the most important controls are those that are placed at intersections, where roads come together or cross one another. Controls at intersections let cars take turns at stopping and going. The illustration above shows one type of control--traffic lights, which are mounted by the side or corner of the road. Sometimes the lights are suspended on cables above the intersection.

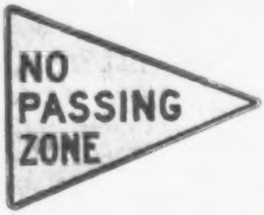


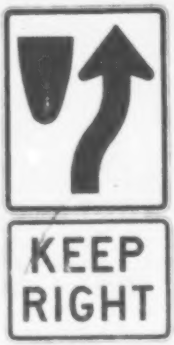
Also set up at corners of intersections are signs that require you to STOP or YIELD to other drivers. These signs are red with white letters so that they are easy to see as you approach the intersection.



When approaching a place where two roads meet, scan the roadway and the roadside for traffic control signals. Below are other examples of signs that control traffic. Study the driver's guide for your State to learn what all of the signs mean.





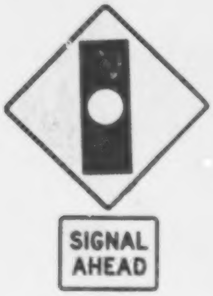


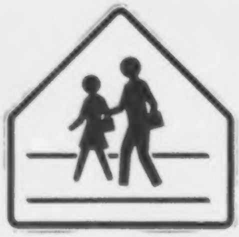
(NOTE: Solid yellow stripes painted on the roadway also indicate no-passing zones.)

It is very important that you don't miss a traffic control sign. Why? Because drivers may respond to traffic controls rather than to other cars. If you miss a red light, another driver may not notice that you went through a red light. He may notice only that he has a green light. He will not expect any trouble from you who should have stopped for the red light.

Signs That Give Warnings

Most warning signs are diamond-shaped, yellow or orange in color, with black symbols and/or lettering. You will see them alongside the road everywhere you drive. They warn you in advance that there may be danger ahead. In most cases, when you see a warning sign, you should slow down.

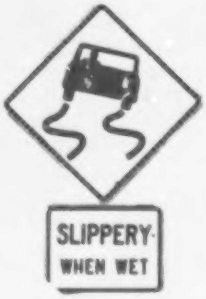




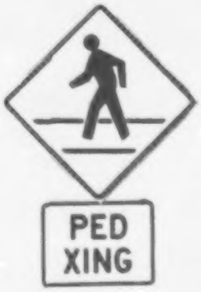
The sign above, indicating there is a signal light ahead, tells you to slow down. When you know you're approaching a signal light, expect heavy cross traffic. Do you know why?

A very important warning sign is shaped like a house rather than a baseball diamond. This sign warns you that you are approaching a school crossing and that children may be nearby. After you pass the school crossing sign, you'll usually see a warning sign telling you to "slow down."

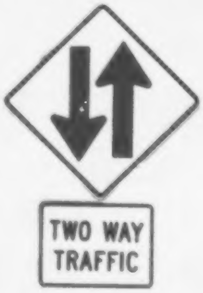
Here are some other examples of warning signs.



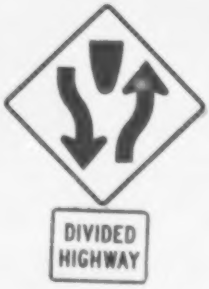
(Slow down)



(Pedestrian Crossing)



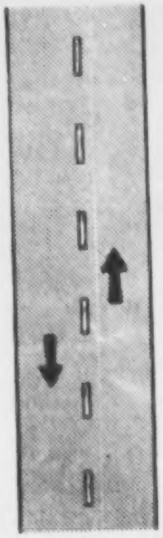
(May have to maintain speed)



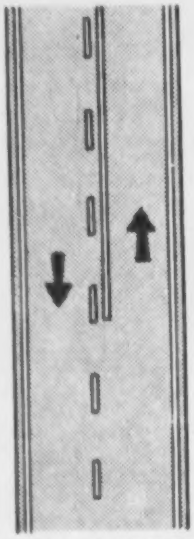
(May have to maintain or increase speed)

Roadway (Pavement) Markings

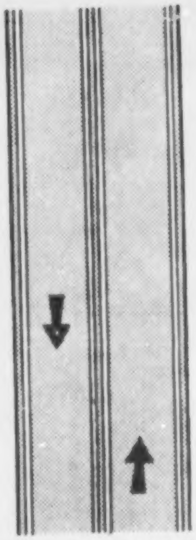
Markings painted on the roadway also give warning and control traffic. Arrows and lines tell you where on the roadway you should be driving; broken lines tell you that passing is permitted; solid yellow lines warn you that passing is not permitted; words like SLOW or SCHOOL are painted on the roadway to give warning; and words like LEFT TURN ONLY are painted within proper lanes on the road to control traffic. Below are some examples of pavement or roadway markings.



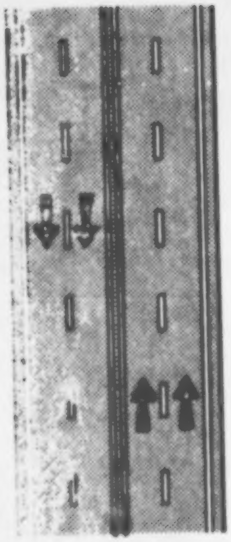
Two-lane, two way roadway, passing permitted.



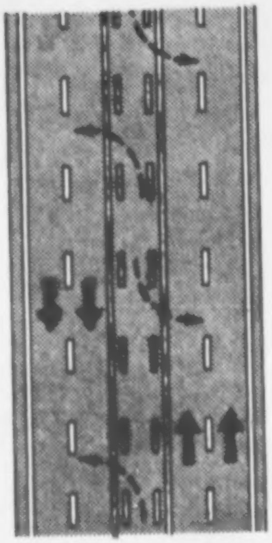
Two-lane, two way roadway passing prohibited one direction.



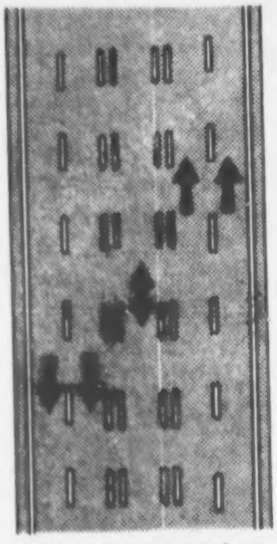
Two-lane, two way roadway passing prohibited both directions, crossing centerline permitted only as part of left turn maneuver.



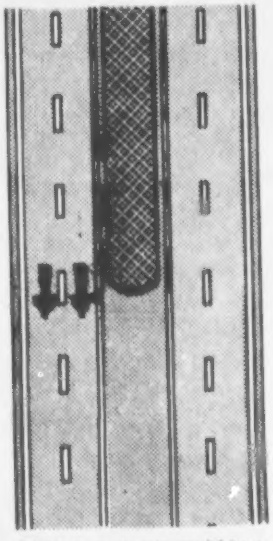
Multi-lane, two way roadway, crossing centerline permitted only as part of left turn maneuver.



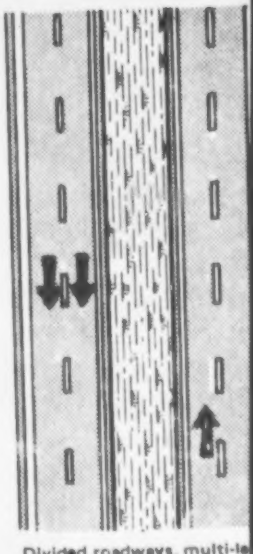
Multi-lane, two way roadway, with two way left turn lane reserved exclusively for left turning vehicles in either direction



Multi-lane, two way roadway, with center lane direction reversible during specified periods. Such markings are supplemented with signs or signals.

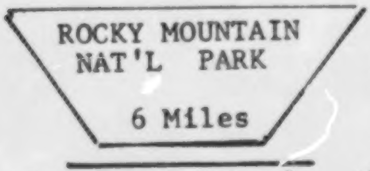


Divided roadways, multi-lane with divider (non-traversable) and with no clearance for vehicle at inner edge of the through lane.

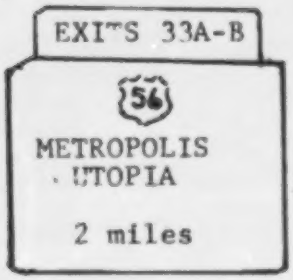


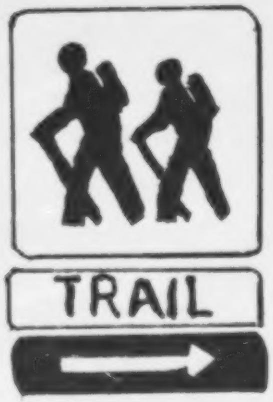
Divided roadways, multi-l
with divider (traversable).
Clear space in the median
is available for an emergen
stop off the travelled way.

Signs that Provide Guidance



Guide signs direct travelers to the places they want to go--like Rocky Mountain National Park (at left). There is no uniform color or shape to guide signs, maybe because they cover a wide range of subjects and information. For example, the Rocky Mountain sign and similar signs directing travelers to public parks and recreational areas are brown with white lettering.



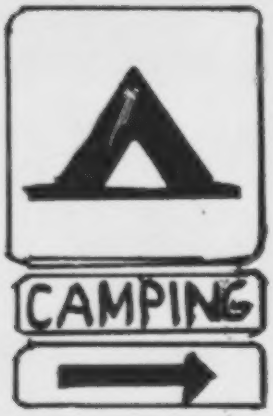


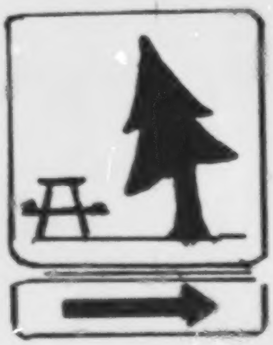
Here are other examples of guide signs. The guide sign shown above (left) gives directional information--how far it is to the next town and what exit to take to get there. Directional guide signs are usually green with white lettering. The other guide sign (TRAIL) is also green with white lettering. Other guide signs include bike routes, roadside mileage markers, and diagrams of interchanges.

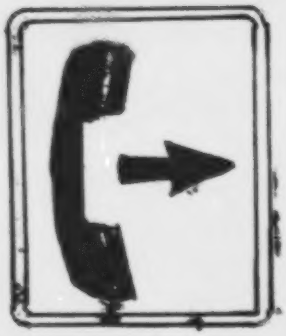
ANSWERS TO LAP 3-1 EXERCISE: Drawing #1: (A) Chuckholes in the roadway; (C) Curve up ahead. Drawing #2: (B) Intersection; (A) Yield sign; (C) Arrows showing turn lanes. Drawing #3: (B) Truck ahead; (A) Railroad crossing sign. Drawing #4: (A) Traffic circle--you should especially notice Car #3--while he is signalling a right turn onto South Street, you can't be sure of this until you see him slow down and begin to turn. Also observe Car #1 in Drawing #4. Drawing #5: (A) Construction barricades. You also need to be looking behind--Car #1 is driving in the middle of the road. The driver could be starting to pass or simply not paying attention. In any case, Car #1 could cause you problems, and you should be observing it.

Start looking early for the guide signs that will give you the directions and information you need.

Signs That Indicate Services







When you're driving in familiar territory, you won't need service signs very often. It's when you're traveling in a new area that you need to watch for signs that will tell you, for example, where you can eat your picnic lunch or where you can camp for the night. Start looking for the blue and white service signs early.

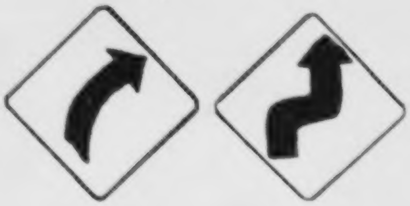
2. Observing the Road Ahead

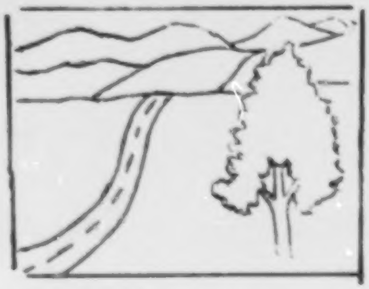
There are three things to observe about the roadway:

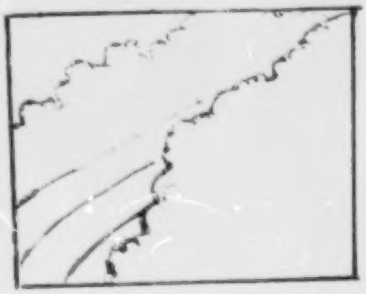
- Its shape.
- Its surface and condition.
- Its shoulders.

Observing the Shape of the Roadway

When the road is flat and straight, there's no problem in being able to observe "far enough" ahead. But when the road bends into a curve or a hill, or even a dip, you usually can't see far enough to know if there is any danger up ahead. Watch the roadside for warning signs that will tell you when you're approaching a section of the road that may have dangers. Maybe you see a warning sign that a curve is up ahead. Then when you see the curve, look through it to determine how sharp it is. Make a judgment as to what your speed should be to drive through it safely. The symbols on the warning signs will help you figure out how sharp the curve is.

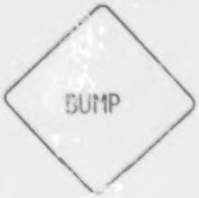


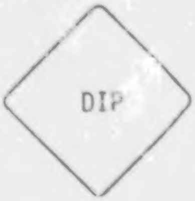




The shape of the road is important in observing oncoming traffic. You cannot see around a curve or over a hill, and sometimes trees, shrubbery or parked vehicles will block your view. Be on guard for oncoming cars entering your lane to pass at places where neither you nor the drivers of oncoming cars can see very well.

Observing Surface and Condition of Roadway





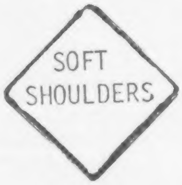
Is the road's surface concrete or gravel? Is it in good condition or does it have holes and bumps? Hitting a bad bump in the road can jerk the steering wheel out of your hands and make you lose control of the car.

When the road is bad, scan in front of the car. Warning signs like the ones to the right may have been mounted along the right side of the road to warn you to slow down. Not all bumps and dips will be marked, so you must observe very carefully.

Certain road surfaces are better than others. A concrete or asphalt surface is better than a gravel or oil surface, because on concrete or asphalt, you have better contact between tires and road. This makes steering and stopping easier and safer. A loose or slick surface makes it harder to control the car. Watch for warning signs along the road telling you of poor road surfaces.

Observing Road Shoulders

The roadside or shoulder can sometimes be used if you have to leave the roadway because of a flat tire or some emergency situation. Watch for warning signs of soft shoulders and avoid these areas if possible. If you have to drive onto the shoulder, make sure that it is firm and wide enough to allow you to get entirely off the main roadway--or make sure your speed is slow enough, if the shoulder is soft, that you can keep control of the car.



3. Observing Other Traffic

"Other traffic" is other road users--not only cars and other types of vehicles, but pedestrians, cyclists, trains, and so on. Traffic is everywhere you drive, all the time. When and where do you look for other road users?

- Where your road crosses or meets another street or roadway.
- Where other road users can enter the roadway.
- When you're entering the flow of traffic.
- When you're changing your position on the roadway.
- When you see or hear anything unusual (e.g., machines at a construction site).

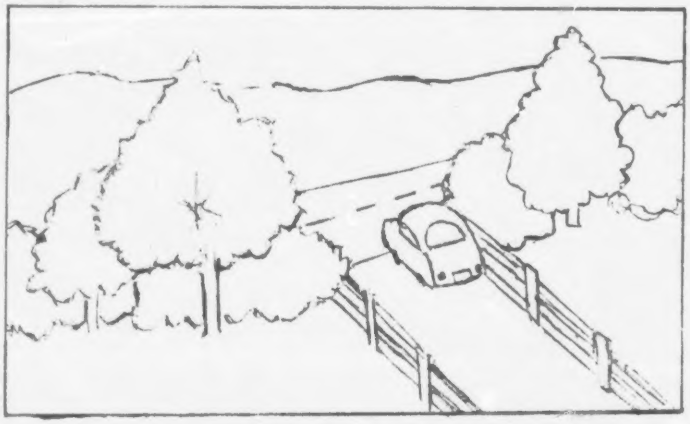
Observing Traffic Where Your Road Crosses or Meets Another Roadway

These places include intersections, railroad crossings, pedestrian crosswalks, and even animal crossings.

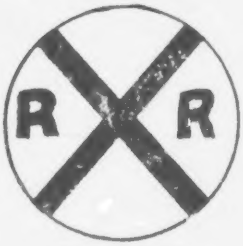
Watch for signs and signals that control the movement of traffic. Do what the signs tell you to do, and watch to see if other drivers are obeying the signs.

Watch more carefully when there are no controls. Look LEFT-RIGHT-LEFT, then RIGHT again as you begin to cross the intersection. This is a good way to check for traffic whether you're crossing the roadway or making a turn. Do you know why it's a good idea to look left first, then right, then left again? Because traffic to the left crosses your path first. The second check to the right, made as you have started to cross the intersection, is to see that nothing has changed since you looked the first time. If something is coming from the right, this last check will allow you time to take the appropriate action.

Watch for signals from other cars. Compare a car's mechanical signals with its position. Do both the signal and position say, "I'm turning left?" If the signal says "left" and the position says "right"--be careful. Be sure of what the driver is going to do before you do anything. Getting hit broadside in an intersection may result in personal injury, and certainly in damage to the car, even though neither car may have been going very fast.



Your ability to see in areas where roads cross or meet can be reduced by parked cars, buildings, or trees and bushes. (This is your visibility.) The best way to observe at a "blind intersection" is to come to a stop or at least slow down (if stopping would be dangerous) until you can see. Ease the car out slowly to the point where you do have a view of traffic coming from the left and right. But remember to keep the car clear of the path of cross-traffic. That is, don't pull out too far to get that better view.



For a railroad crossing, you will see this warning sign (at the left) well before you reach the crossing. But you must listen as well as observe. Check in both directions very carefully, especially when you drive over the same crossing regularly. Drivers tend to get careless when they drive the same old route all the time. That's why more than 1500 people are killed each year in car-train crashes, and many of those who were killed lived near the crossing where the fatal crash happened.

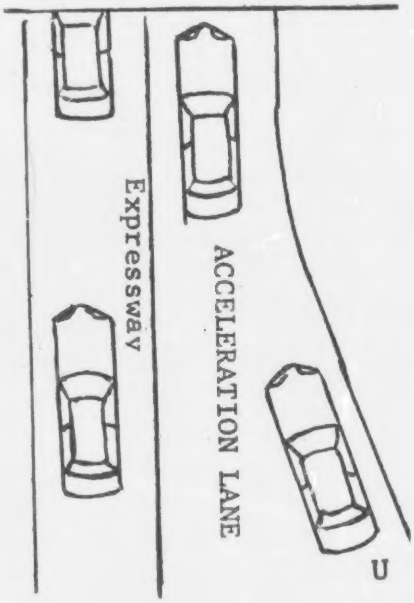
Where Other Road Users Enter Roadway

Watch ahead for points of entry--where other cars and pedestrians will enter your roadway from side streets, driveways, shopping centers, entrances and exits to expressways. These road users are supposed to look out for you (because legally you will usually have the right of way if you're on the main roadway), but don't count on these road users looking out for you. There may or may not be traffic controls at these points. You may be warned ahead of time if there are, so watch for roadside signs that say "Signal Ahead" or "Merging Traffic." Watch for entrance and exit signs to expressways, then look ahead until you can see these points of entry and exit. When you do see them, expect cars to change lanes and adjust speed.

Cars leaving parking lots, driveways, and side roads may have trouble seeing the main roadway very clearly, because trees, shrubbery, or buildings are blocking their view. To see better, they may inch their way out onto the roadway where they can be a hazard. Watch for this sort of thing to happen in these areas, and be prepared to slow or stop or swerve to avoid hitting the car. Before you slow down or do anything that might interfere with the flow of traffic on the main roadway, be sure to check your mirrors and over your shoulder for traffic behind you, and look ahead for oncoming cars.

When You Enter the Flow of Traffic

When you enter the flow of traffic, from an entrance ramp to an expressway, for example, the best way to observe traffic before you merge is through your rearview mirrors and by looking over your shoulder. Your inside mirror allows you to see the cars behind you on the ramp. Your outside mirror shows the cars approaching from the rear on the expressway. Look over your left shoulder to check the "blind spot." (The blind spot is the area at the left and right rear corners of your car which cannot be seen in your rearview or sideview mirrors. The only way to know if a car has moved into your left rear blind spot is to look over your left shoulder to check the area.) Looking over your shoulder and into the mirrors gives you definite information on the possibility of merging.



When you're in the flow of traffic, the driver in front of you is important. (And you're important to the driver behind you.) Watch the driver ahead carefully. If he slows down you have to slow down--or run into him. Watch for indications that the cars ahead are slowing down--hand signals, brake lights on or flashing on and off. Watch for turn signals. But remember--a flashing turn signal is not a promise that the driver is going to turn. If you saw the signal come on, usually it's pretty safe to trust that the driver will do what his light says he is going to do.

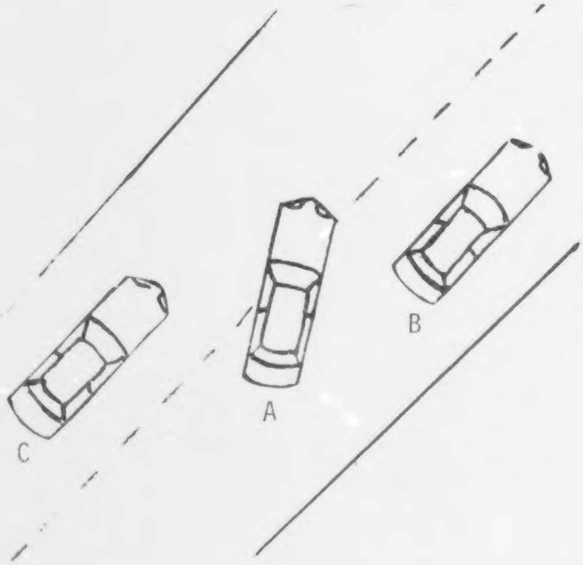
When You Change Your Position on the Roadway

Observing the driving scene before changing lanes is about the same procedure as observing for entering the flow of traffic. Using your mirrors and looking over your shoulders are very important. Look out for drivers already in the lane you plan to enter, and watch for other drivers who may move into the other lane at the same time you do.

Are you changing lanes to pass?

DON'T DO WHAT CAR "A" IS DOING
IN THE DIAGRAM AT THE RIGHT!

Car A did not check to see if there was already another car, in this case Car C, in the passing lane. Such careless observing procedures can cause a serious accident.



Before changing lanes to pass, check the car ahead; check for cars to the rear (especially in your blind spot); and check the passing lane for oncoming cars. And finally--after you have gotten around the car, check its position before you re-enter the driving lane. When you can see the front of the car you've passed in your inside rearview mirror, it's safe to re-enter the driving lane.

When You See and Hear Unusual Things

"Observing" Noises. Besides looking at the driving scene, you must listen to the driving scene. Keep your radio at a reasonable volume so you can hear sirens, horns, whistles, and screeching tires. When you hear an unusual sound, try to locate where it's coming fron by using your mirrors, scanning all around, rolling down your window.

REVIEW REVIEW OBSERVING REVIEW REVIEW

WHERE TO OBSERVE

- Far enough ahead to have time to anticipate actions of things you see in the path of your car--12 seconds ahead.
- All around car by:
    - Scanning in front and to sides.
    - By looking in mirrors and over shoulders to rear.

WHAT TO OBSERVE

- Traffic signs, signals, and roadway markings.
    - Those that control traffic, such as signal lights at intersections, Stop signs, Yield signs, and lane markings.
    - Those that give warnings, such as "Pedestrian Crossing," "Divided Highway," and "Narrow Bridge."
    - Those that provide guidance, such as directions for the correct exit, number of miles to next city.
    - Those that indicate services, such as directions to picnic area, telephone, or hospital.
- The Roadway
    - Check its shape to judge if you can see far enough ahead.
    - Check its surface and condition so that you can react safely to bumps, dips, and other bad areas.
    - Check its shoulders to be sure they are safe to drive on in case of emergency.
    - Check its markings for warnings and to see where you should be driving.
- Other Traffic
    - Where your road crosses or meets another road (Intersections, railroad crossings, pedestrian and animal crossings), watch for traffic signs, signals, and pavement markings, as well as signals from other cars and the behavior of other drivers.
    - Where other road users enter roadway from side streets, driveways, shopping centers, and other off-street areas.
    - When you enter the flow of traffic, watch for rear traffic through mirrors and over your shoulders to check blind spots.
    - When you change lanes--observe cars ahead, cars behind, and those in adjacent lanes.

CHECK POINT: TEST YOUR UNDERSTANDING

The purpose of this short test is to help you find out how well you know the material in this LAP on Observing.

After you have read the material, answer the questions below. Then turn to the answers on the next page. If you don't answer them all correctly, go back and read the parts you're unsure of.

1. If possible, you should always be observing:
    a. About 6 seconds ahead of your car.
    b. About a block ahead of your car.
    c. About 12 seconds ahead of your car.
    d. At least a half a mile ahead, if the shape of the road permits.

2. An example of a warning sign is:
    a. Yellow pennant that says "No Passing Zone."
    b. Black and white sign that says "Speed Limit 50 MPH."
    c. Green sign on expressway that says "Kansas City Next 5 Exits."
    d. Orange diamond-shaped sign that says "Road Construction ahead."

3. A hill can be dangerous because:
    a. You are unable to see far enough ahead to tell if oncoming cars are staying in their own lane.
    b. You are not permitted to pass on a hill.
    c. You may lose your temper when you get behind a big truck.
    d. It's hard on your car's engine to climb a hill.

4. Before you change lanes to pass the car ahead, you should:
    a. Check traffic to the rear only, through your rearview mirrors.
    b. Check only the passing lane to see if a car behind you is starting to pass you.
    c. Check nothing as long as you signal for a lane change.
    d. Check the cars ahead, the cars behind and in the adjacent lanes, and check for oncoming cars.

CHECK POINT: ANSWERS

1. If possible, you should always be observing "c" --about 12 seconds ahead of your car. When you think of observing in terms of seconds, it doesn't matter how fast you're travelling--it's still 12 seconds. You may have thought that answer "a"--"about a block ahead of your car" was right. But it's right only if you're travelling about 25 miles per hour. If you're travelling 55 miles per hour, answer "d" would be right. But 12 seconds is right for both. Answer "a"--"about 6 seconds ahead of your car"--is not far enough to be observing in either situation.

2. An example of a warning sign is "d"--orange diamond-shaped sign that warns you of "Road Construction Ahead." When you see a yellow or orange diamond-shaped sign, you should in most cases slow down, because the sign is warning you of possible danger. The yellow pennant that says "No Passing Zone" is a sign that controls traffic, as does the speed limit sign. The green sign that says "Kansas City Next 5 Exits" is a guidance sign, giving you directions to a place you may want to go.

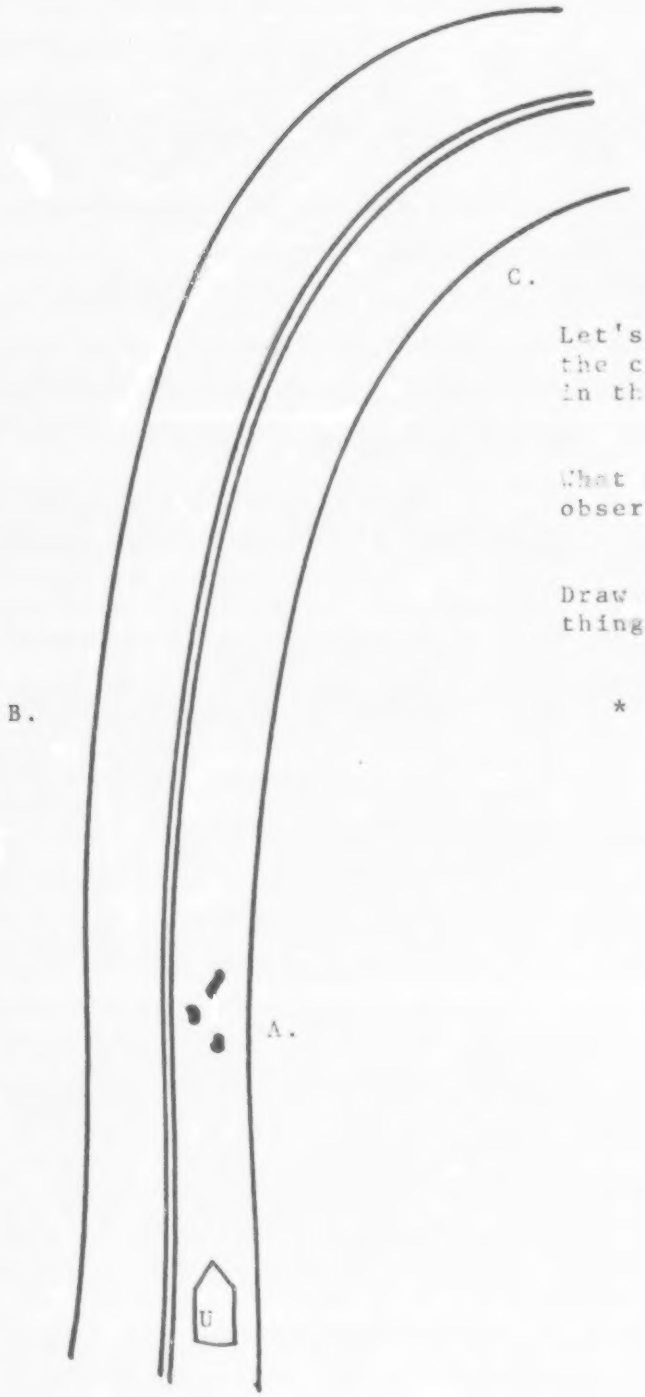
3. A hill can be dangerous because "a"--you are unable to see far enough ahead to tell if oncoming cars are staying in their own lane. If they shouldn't be staying in their own lane, they may be making an illegal pass, and this could mean a head-on collision.

4. Before you change lanes to pass the car ahead, you should "d"--check the cars ahead, the cars behind and in the adjacent lanes, and check for oncoming cars. Passing is a hard driving maneuver and requires the most careful observation of other traffic if you are to make the pass safely. If you check only to the rear or only the passing lane you will fail to see other cars that may make your passing maneuver unsafe.

end.

Things to Do On Your Own
or in
Guided Learning

If you're having problems with:	You can:
LAP 3-1 Recognizing traffic signs, signals, roadway markings...	Work in pairs or small groups and use flashcards on "signs, signals and markings," or look at slides on signs.
LAPS 3-1, 3-2, 3-3, and 3-4 Traffic--at intersections, on and off ramps, lane use...	Your instructor might show film (16mm) from the simulator lab for this unit.
LAPS 3-1, 3-2, 3-3, and 3-4 Observing, communicating, adjusting speed, positioning...	Watch one or two of these filmstrips. Pick the ones you think will help you the most: "Interacting with Traffic" "Safe Highway Driving" "Road Check" "Special Driving Techniques" "Separating & Compromising Risks" Pair up or work in small groups and look at slides used in class for this unit. Talk about all 4 principles --observing, communicating, adjusting speed, and positioning--for each slide. Do exercises at the end of your Unit 3 LAPS, or work in a small group and make up your own driving situations.
Procedures for passing...	Watch these (Ford) filmstrips and listen to the records that go with them: "The Basic Passing Maneuver" "Being Passed"
What to look for and what to do at intersections...	Watch (Ford) filmstrip, "Intersection Maneuvers" and liste to record.
Adjusting speed and positioning the car in traffic...	Look at (Ford) filmstrip, "Adjusting to the Changing Scene," and listen to the record that goes with it.



LAP 3-1

Drawing #1

Let's say you are driving the car marked with a "U" in this drawing.

What things should you observe?

Draw a circle around the things you should observe.*

* * *

* The correct answers for Drawings #1 through #5 are at the bottom of page 8.

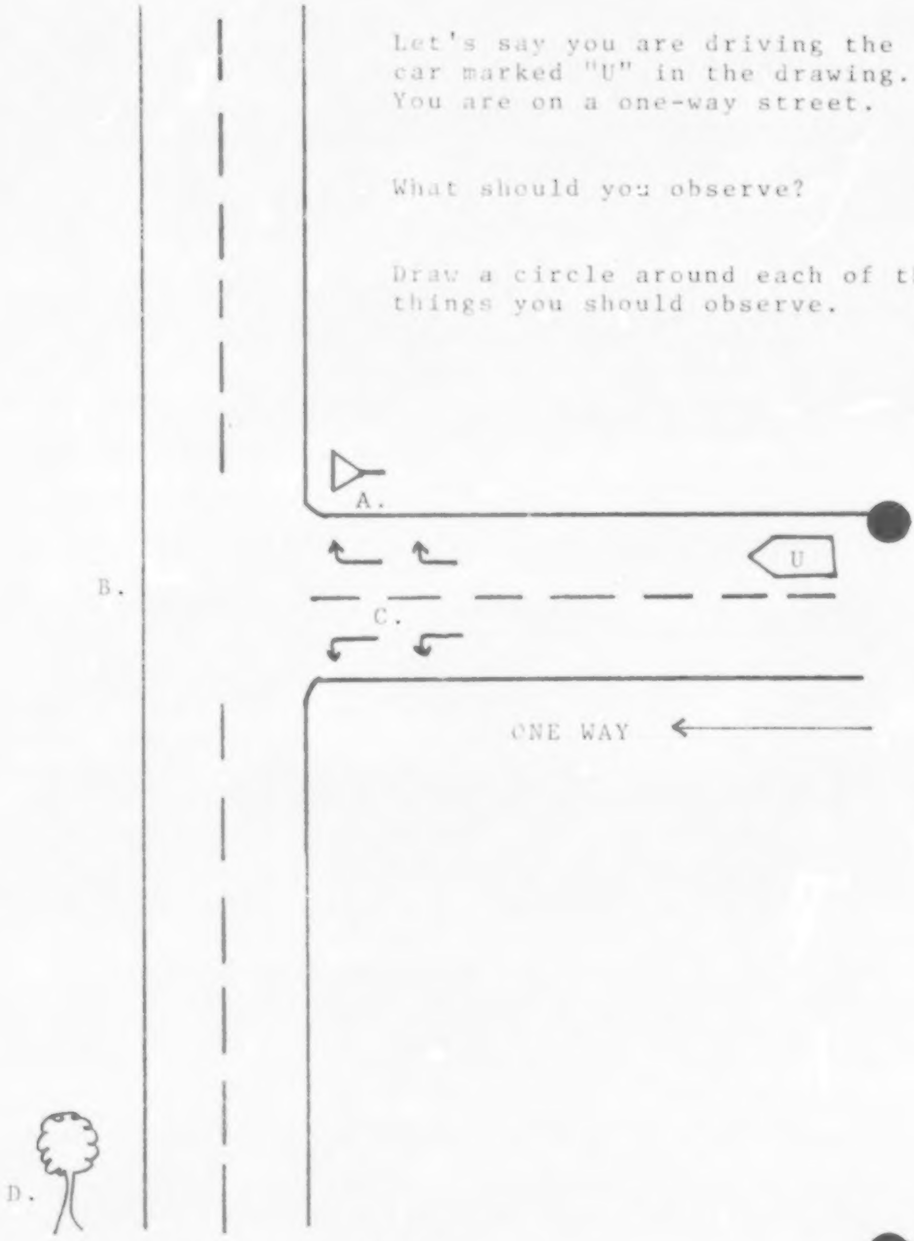
LAP 3-1

Drawing #2

Let's say you are driving the car marked "U" in the drawing. You are on a one-way street.

What should you observe?

Draw a circle around each of the things you should observe.



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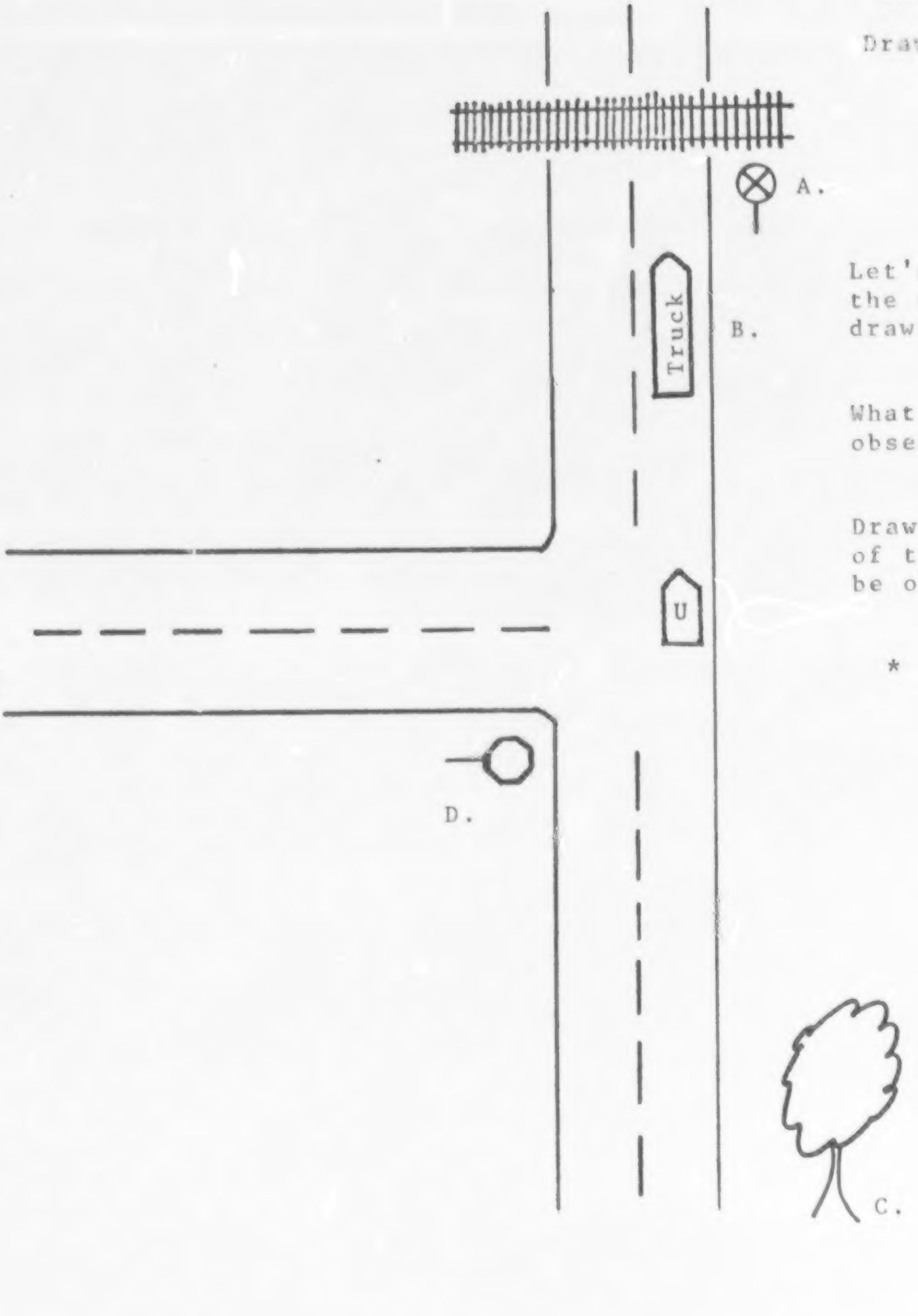
LAP 3-1

Drawing #3



Let's say you are driving the car marked "U" in the drawing.

What should you be observing?

Draw a circle around each of the things you should be observing.

* * *

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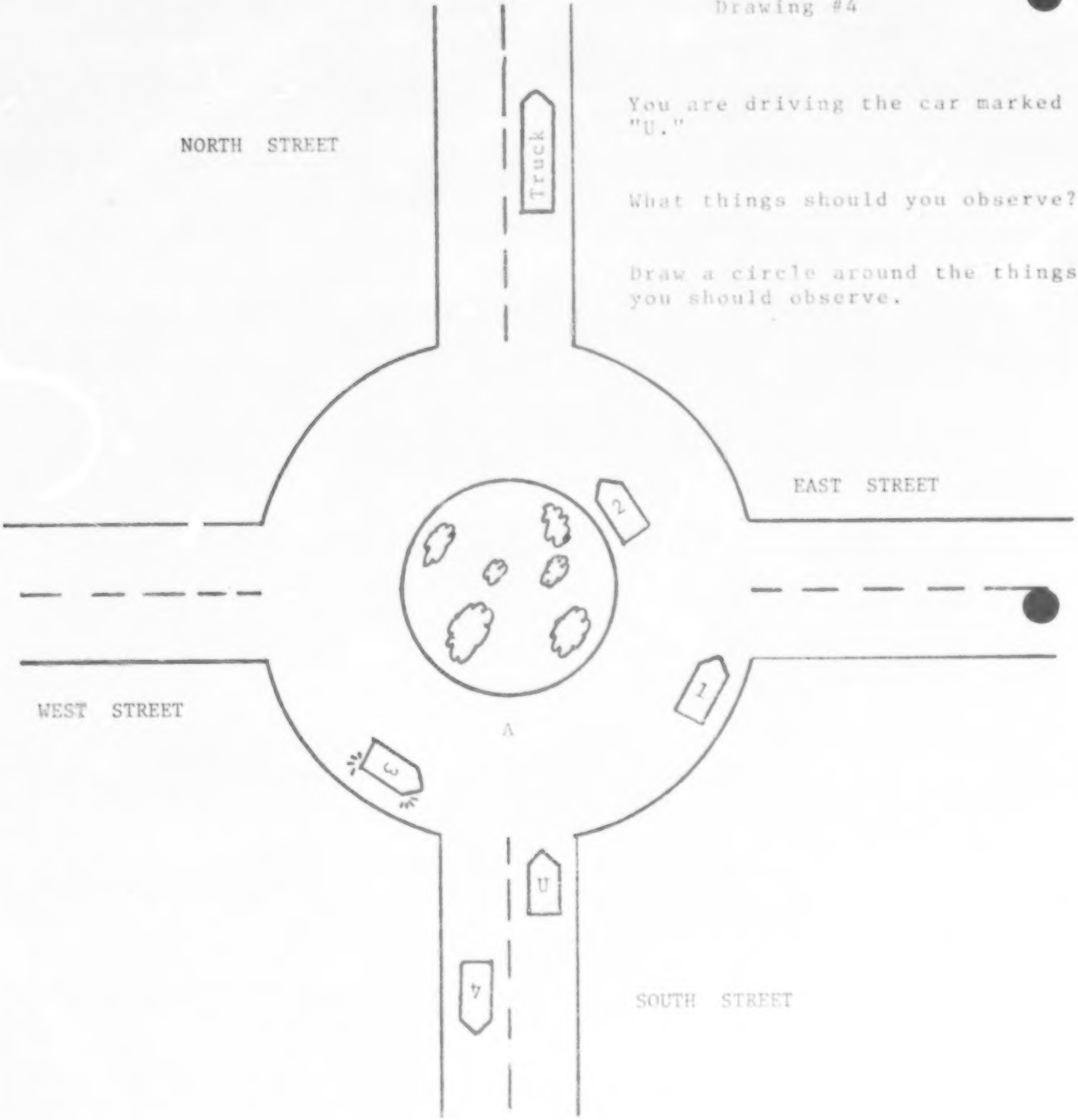
LAP 3-1

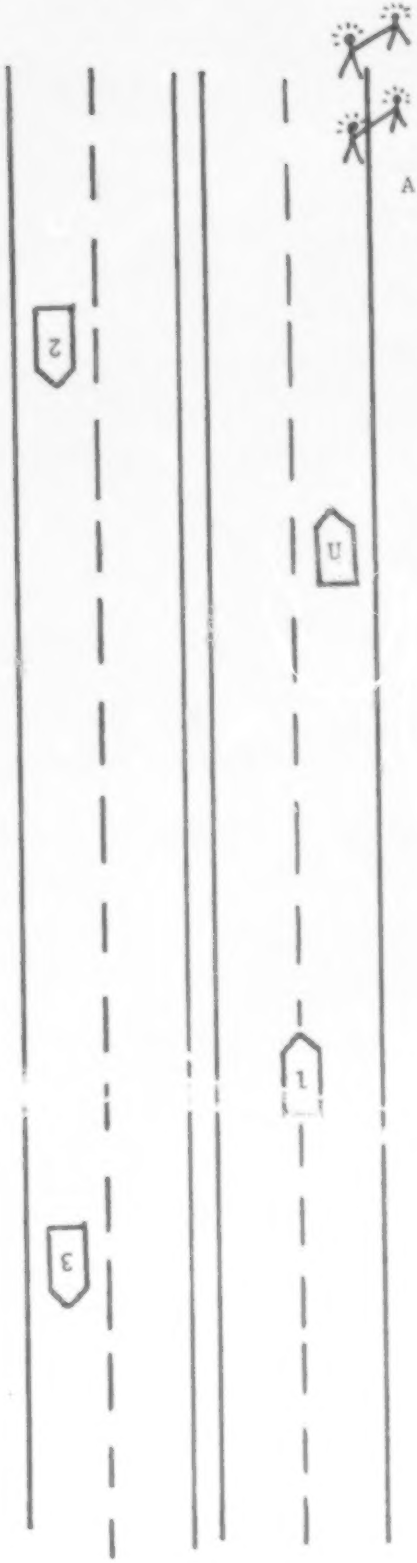
Drawing #4

You are driving the car marked "U."

What things should you observe?

Draw a circle around the things you should observe.


NORTH STREET
Truck
EAST STREET
2
1
WEST STREET
A
3
U
4
SOUTH STREET



LAP 3-1

Drawing #5

You are driving the car marked "U."

What should you observe?

Draw a circle around the things you should observe.

* * *

35

LEARNING ACTIVITIES PACKAGE 3-2

COMMUNICATING

SAFE DRIVER COURSE

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WHAT HAPPENS IN THIS LAP

In this LAP, you will learn how to communicate your presence and your intentions to other drivers, people on foot, and cyclists. You will learn to do this through the use of your turn signal indicators, brake lights and headlights, horn, your hands, and the position of your car.

The study material will explain the basic principles or ideas of communicating. Later, in class, you will have exercises that will require you to apply these principles to traffic situations. You will also be required to apply the principles of observing, positioning, and speed control to traffic situations.

When you really know how to communicate with other road users, you will go out on the road in actual traffic to apply what you know.

WHY STUDY THIS LAP

In the last LAP, you learned how important it is to watch for and observe other drivers to see what they are doing. But it is just as important that other drivers see you and know what you are doing or plan to do.

There is, of course, no way that you can be sure you will be observed by other drivers. However, there are some things you can do to help other drivers see you and note what you are doing. Lumped together, these things you can do are called "communicating." Some of them are required by law; others just make good sense. All of them will help you to keep from becoming an accident victim.

WHAT YOU NEED TO LEARN

1. Communicating your intentions
    a. Direction changes
        (1) Where and when to signal direction changes.
        (2) Use of turn indicators, hand signals, and car position.

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b. Speed changes

   (1) Normal speed reduction.
   (2) How to signal emergency speed reduction.
   (3) How to signal a stop or near stop.

2. Communicating your presence

   a. Use of headlights

   b. Hand signals

   c. Horn

      (1) As a precaution.
      (2) As a warning.

   d. Positioning your car

INTRODUCTION

Communicating means telling people things. When you talk on the phone you're communicating. When you write a letter you're communicating. In driving, communicating means telling other road users where you are going and what you plan to do. Communicating where you are and what you plan to do gives other drivers time to react -- just in case what you're planning to do affects them.

COMMUNICATING YOUR INTENTIONS

Other drivers will expect you to keep on doing whatever it is you are doing. They think you'll continue going in the direction you are going and at the same speed. So when you plan to change direction or speed, it is important to warn other drivers, if possible.

Communicating Changes in Direction

Whenever you plan to change the direction in which you are driving, there is always a chance of a collision with another driver. Communicating your plans to change direction will lessen the chance of an accident. When you communicate your plans to change direction, you:

- Signal before changing lanes.
- Signal before turning a corner.
- Signal before you enter or leave a roadway.

Where Should You Signal?

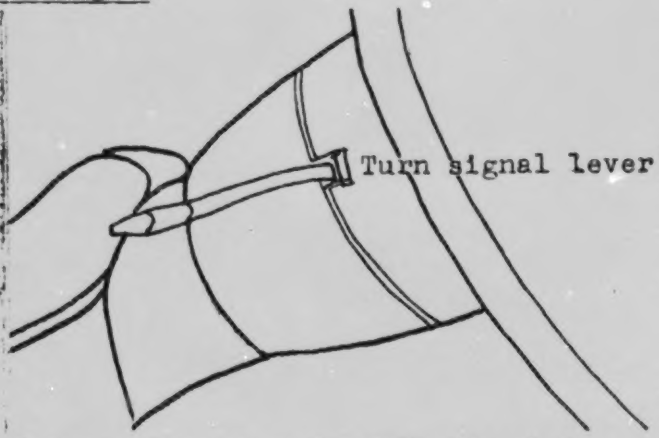
Generally, the sooner you tell people what it is you plan to do, the more time you give them to react. If you wait until you reach an intersection before you signal a left turn, for example, the car behind you may be "trapped" there while you wait for a chance to complete the turn.

Of course, you don't want to signal too early. For example, if you intend to turn into a driveway just beyond an intersection, you had best wait until you are through the intersection before you signal. Otherwise, another driver may assume that you plan to turn at the intersection, since that's where most turns are made.

The best overall principle is to signal a change in direction as early as you can without confusing other drivers.

How Do You Signal?

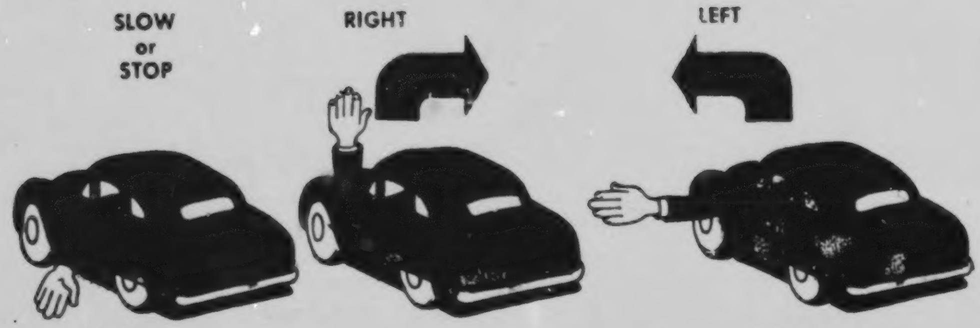
1. Mechanical turn indicators. Almost all cars are equipped with mechanical turn indicators that allow you to signal a change in direction with a flick of the hand. It is so easy that there is no excuse for failing to signal. It should become a simple habit; decide which way you are going to turn, then signal.



By moving the turn signal lever, located on the left side of the steering wheel, you can signal a change in direction with a flick of the hand. Keep your hand in contact with the steering wheel and move the lever with your finger.

2. Hand signals. While mechanical turn indicators are good enough to signal most direction changes, there are times when hand signals are better. On a bright, sunny day, the driver directly behind your car may have trouble telling whether your turn signals are on or off if the sun is hitting them just right. You can also use hand signals:

- If you plan to slow 'way down.
- If you intend to stop at some point where the driver behind you might not expect you to stop -- for example, in the middle of a block in order to parallel park. If the other driver is following closely, he can see your hand signal and may be able to avoid a rear-ender.



This diagram shows the hand signals for slowing or stopping and for right and left turns.

3. Positioning the car. A third way you can communicate your intentions is in the way you position your car. Moving to the right as you approach an intersection tells others that you probably plan to turn right. Moving to the left suggests that you plan to turn to the left. However, it is still important to signal before moving to the left or right.

It is particularly important in positioning your car that you do not give false information. Some drivers may swing slightly to the left before beginning a right turn so as to "get a better angle." Unfortunately, the driver behind may think the move to the left is the start of a left turn, and he may try to pass this car on the right. Be careful, when positioning your car, not to "communicate" something that isn't your intention.

Communicating Changes in Speed

There are three ways to communicate to other drivers that you intend to change speed:

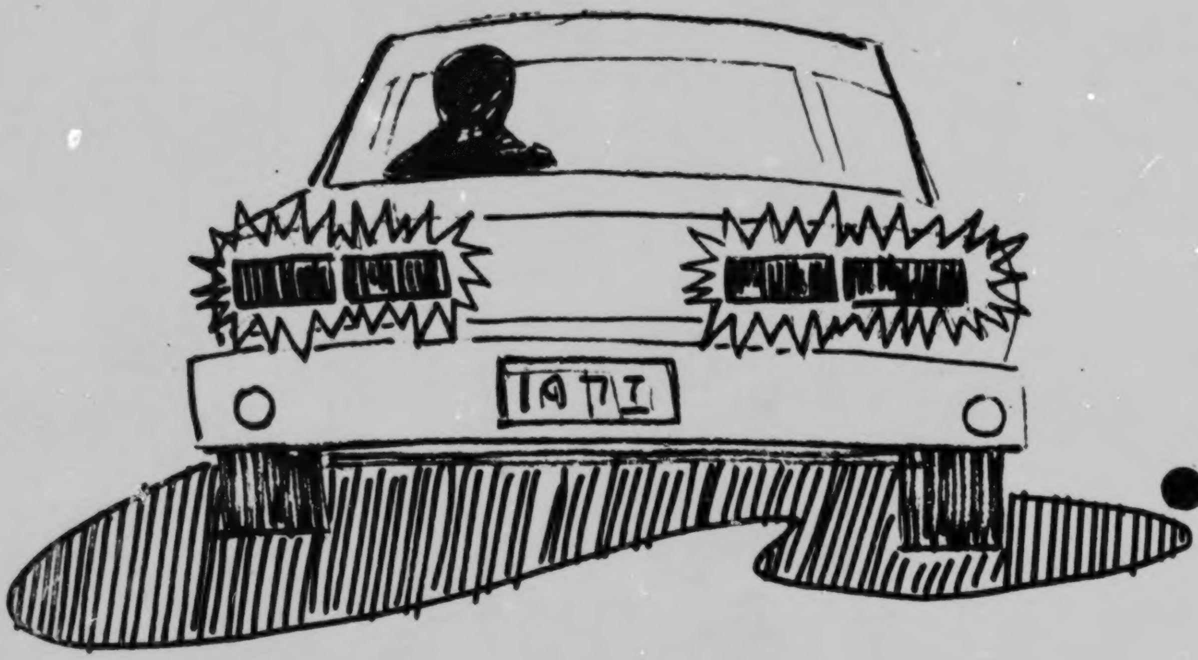
- By applying your brake lights.
- By flashing your brake lights.
- With hand signals.

Any time you slow down, you should warn the driver behind you. A first warning is given automatically by your brake lights, which go on whenever you put a slight pressure on the brake pedal. (Make sure you know how much pressure is needed to activate your brake lights.) Do not drive for long distances with your foot "resting" on the brake pedal. This will keep your brake lights on and confuse drivers behind you.

Most of the time, the brake lights provide a satisfactory signal. However, there are times when they are not enough.

Flashing Brake Lights

Brake lights, as a means of communicating, do not tell the driver behind how fast or how much you plan to slow down. Say you are just coming over the crest of a hill and there, right in front of you, is a line of cars stopped for an accident. You can stop in time, but can the driver behind you? He cannot see the line of stopped cars and will not realize you are about to stop very quickly.



How can you warn him? The best way to comminicate an emergency or sudden stop is to signal with your brake lights. You do this by tapping your brake pedal several times to "flash" your brake lights. This doesn't necessarily say, "Im going to stop fast," but it does alert the driver behind you that there is something up ahead he should be on his guard for. The hand signal for slowing/stopping is another way of warning cars behind that you plan to slow 'way down.

Emergency Flashers. When your car is stalled alongside the roadway, you can use your emergency flashers to communicate to other drivers that you're in trouble. Emergency flashers should also be used at the scene of an accident. (The use of emergency flashers will be discussed in more detail in Unit 8.) The emergency flashers are usually activated by pulling or pushing a small button on the steering wheel column.

COMMUNICATING YOUR PRESENCE

Sometimes you have to tell other drivers simply where you are. You can hope that other drivers are good enough observers to see where you are, but it's a good idea to help them to see you.

You can help them see you in three ways:

- With your lights.
- With your horn.
- With the position of your car.

With Your Lights

Probably the best way of communicating to other drivers where you are is with your lights. Besides helping you to see at night, lights help other people see you in the daytime.

SITUATION: You are driving on a long country road during daylight. You observe an oncoming car. Then a car pulls out from behind the oncoming car to pass. The driver of this third car does not see you.

WHAT CAN YOU DO? As you are moving to the right side of your lane, and possibly onto the shoulder, you should rapidly flick your headlights on and off a few times. "Flashing" your headlights will generally catch the other driver's attention and alert him to your presence. To "flash" your headlights, simple pull the headlight switch on and off serveral times. Leave your lights on low beam.

When driving on the open road, some drivers leave their headlights on all the time so that they can be seen a long distance away. This is a particularly good idea on "gray days" when cars often seem to blend into the background -- the road, the sky, and things along the road.

Always turn on your headlights, set on low beam, at twilight, when it begins to get dark. Make sure you use your headlights, not your parking lights. If conditions are worth using your lights, they're worth using your low beams. High beams can bother other drivers in the daytime, just as they do at night.

With Your Horn

Your horn can be a valuable instrument for communicating. You shouldn't hesitate to use it if it will help prevent an accident. How you use it will depend upon the situation.

If there is no immediate danger, a light tap on the horn should be all you need. There is no sense in scaring the wits out of people (and maybe even causing an accident). A light tap is a "precautionary" use of the horn. Give it a light tap:

- When approaching a person on foot or on a cycle or when an individual is walking close to the roadway. Make sure you are not too close to the pedestrian, or you may scare him, causing him to enter your path of travel.
- When passing a driver who may himself decide to pass the car in front of him.
- When approaching a driver who is not paying attention to his driving or may have trouble seeing you. (Perhaps he is backing out of a parking place and can't see you because of other cars.)

With a light tap on the horn in these situations, you're communicating your presence to other drivers.

There are times when the situation may be more urgent, and you want to say, "Hey! Watch out!" You should not hesitate to let loose a sharp blast on the horn. You will be forgiven if it prevents an accident.

Here are a few conditions that deserve a good loud blast of your horn:

- When a person is about to walk into your path and you may have trouble avoiding him.
- When another car is about to enter your lane, right where you are.
- When an oncoming car has crossed the center line (and is close enough to hear your horn).
- When your car is out of control. (For example, you are sliding toward an intersection on glare ice.)

There is one other way to use the horn that is not forgivable, and that is the blast that says, "Get out of my way! I'm coming through!" The horn is a warning device to help prevent accidents, not a device to clear a path for a discourteous driver.

The horn is a good warning device, but the best way to avoid other cars and pedestrians is by observing the 12-second scan approach, which will allow you to anticipate problems before they happen. If a situation which you have not been able to observe beforehand does arise, then steering and braking are the best ways of avoiding other roadusers. This applies even when you think you have the right of way. Just stop and wait until the way is clear. It is better to let the other driver "get away with" a mistake than to charge ahead and take a chance that both of you will pay for it by running into each other.

With Position of Car

Another way of communicating your presence is by positioning your car where others can see it. You already know how hard it is to see cars on your right. Try to avoid passing or driving alongside another car on the right. Even when you are passing on the left, get through the "blind spot" (at the left rear corner of the car you are passing) as quickly as possible. The longer you stay there, the longer you are in danger.

If you should have to pass another car on the right, don't try to "warn" him with your horn, unless absolutely necessary. Some drivers, when they hear a horn, will assume somebody is trying to pass them on the left, and they will automatically swerve to the right without looking.

Answers to LAP 3-2 Exercise. Drawing #1: (1) Put on your left turn signal; (2) Tap your horn; (3) Begin to move into the left lane. Drawing #2: (1) Put on your left turn signal; (2) Move into the left turn lane. Drawing #3: Tap your horn before getting close to him to warn him that you are approaching. Drawing #4. You should have circled Car #1. You should be observing it because it is following close behind. (2) Communicate by applying brakes and signalling a stop with your left hand; (3) Stop by Car B, so that Car #1 stops or goes around. Drawing #5: (1) You should have circled Car #3 because it is in your path; Car #2 because it could suddenly move toward the exit; and Car #5 because it is close behind you; and the sign on the exit ramp; (2) Communicate by putting on your right turn signal and pulling into the deceleration lane as soon as possible.

COMMUNICATING

REVIEW REVIEW REVIEW REVIEW

TELL OTHER DRIVERS WHAT YOU INTEND TO DO.

If You Change Direction:

- Use your mechanical turn indicators whenever you change direction on the roadway. Make it a habit.
- Use your mechanical turn indicators as early as possible without confusing other drivers.
- Use hand signals if your turn indicators cannot be easily seen by drivers who need to know what you intend to do.
- Avoid positioning your car so as to mislead others.

If You Slow Down:

- Tap brake pedal to flash brake lights when stopping quickly.
- Use a hand signal if you plan to slow 'way down or stop.

MAKE SURE OTHERS SEE YOU.

- Avoid driving on the right side of another car or in the "blind spot" of another car.
- Use your headlights.
  - Keep then on if other roadusers may have trouble seeing your car (e.g., at dusk).
  - Flash them in an emergency.
- Use your horn where necessary.
  - Tap it to prevent danger from arising.
  - Sound it sharply to prevent an accident.
  - Otherwise, avoid using it.

CHECK POINT: TEST YOUR UNDERSTANDING

The purpose of this short test is to help you find out how well you know the study material in this module.

If you think you understand the material you have just read, answer each of the questions below. After you've answered each question, turn to the next page and see how well you did.

Don't peek; you won't know whether you really learned the material if you look up the answers before you finish the test.

1. You plan to turn at an intersection ahead. Between you and the intersection is an entrance to a large shopping center. You should signal your turn:
    a. When you first decide to turn.
    b. After you pass the shopping center so you don't confuse other drivers.
    c. 100 yards before reaching the intersection.
    d. Just as you reach the intersection.

2. Which of the following is not a way to communicate your presence?
    a. Using the headlights.
    b. Using your turn signal.
    c. Using your horn.
    d. Positioning your car.

3. You are passing a row of parked cars. Suddenly the door of a car just ahead of you opens. What should you do?
    a. Tap your horn lightly.
    b. Sound your horn sharply.
    c. Avoid using the horn, and hit the brake.

4. In order to be seen by other drivers at twilight, you should turn on your:
    a. Parking lights.
    b. Emergency flashers.
    c. Low beams.
    d. High beams.

5. You are in the center lane of a freeway and about to pass a slower vehicle that is in the left lane. You should:
    a. Tap your horn lightly before passing.
    b. Pass as slowly as possible.
    c. Flick your lights on and off before passing.
    d. Accelerate to pass as quickly as possible.

CHECK POINT: ANSWERS

1. The correct answer is "b. After you pass the shopping center entrance." That is the earliest moment you can signal without confusing the driver behind you. If you signal before reaching the shopping center entrance, a car leaving the shopping center may assume you plan to turn and the driver may pull out right in front of you.

2. The correct answer is "b -- using your turn signal." Although using the turn signal is a way to communicate your intentions, it does not communicate your presence. Answers "a," "c," and "d" can all be used to communicate your presence to other road-users.

3. The correct answer is "b. Sound your horn sharply." If the door is opening, someone is very likely to step out into your path. A sharp warning is called for. Merely tapping your horn lightly may not do the trick.

4. The correct answer is "c. Low beams." This question is "right out of the book." If you missed it, you had better go back and read the material again.

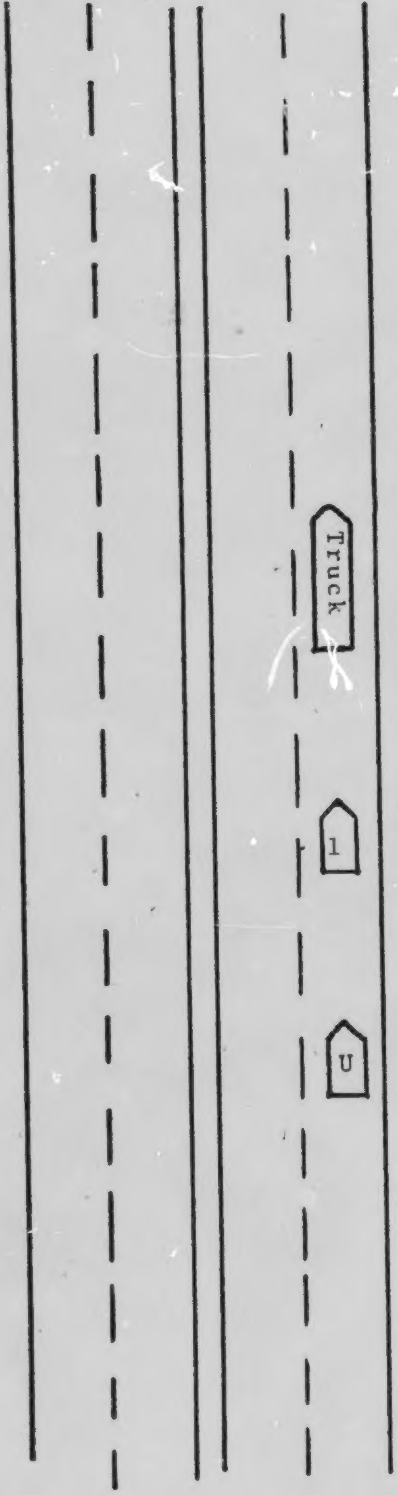
5. The correct answer is "d. Accelerate and pass him as quickly as possible." The other driver is not likely to notice you while you are on his right side. You want to spend as little time there as possible. Tapping your horn would be a bad move. Do you remember why?

Things to Do On Your Own
or in
Guided Learning

If you're having problems with:	You can:
LAP 3-1 Recognizing traffic signs, signals, roadway markings...	Work in pairs or small groups and use flashcards on "signs, signals and markings," or look at slides on signs.
LAPS 3-1, 3-2, 3-3, and 3-4 Traffic--at intersections, on and off ramps, lane use...	Your instructor might show film (16mm) from the simulator lab for this unit.
LAPS 3-1, 3-2, 3-3, and 3-4 Observing, communicating, adjusting speed, positioning...	Watch one or two of these filmstrips. Pick the ones you think will help you the most: "Interacting with Traffic" "Safe Highway Driving" "Road Check" "Special Driving Techniques" "Separating & Compromising Risks" Pair up or work in small groups and look at slides used in class for this unit. Talk about all 4 principles --observing, communicating, adjusting speed, and positioning--for each slide. Do exercises at the end of your Unit 3 LAPS, or work in a small group and make up your own driving situations.
Procedures for passing...	Watch these (Ford) filmstrips and listen to the records that go with them: "The Basic Passing Maneuver" "Being Passed"
What to look for and what to do at intersections...	Watch (Ford) filmstrip, "Intersection Maneuvers" and listen to record.
Adjusting speed and positioning the car in traffic...	Look at (Ford) filmstrip, "Adjusting to the Changing Scene," and listen to the record that goes with it.

LAP 3-2

Drawing #1



You are driving the car marked "U." You want to pass car #1 and the truck.

In the spaces below, write three ways you should communicate what you want to do.

1. ______________________

____

____

2. ______________________

____

____

3. ______________________

____

____

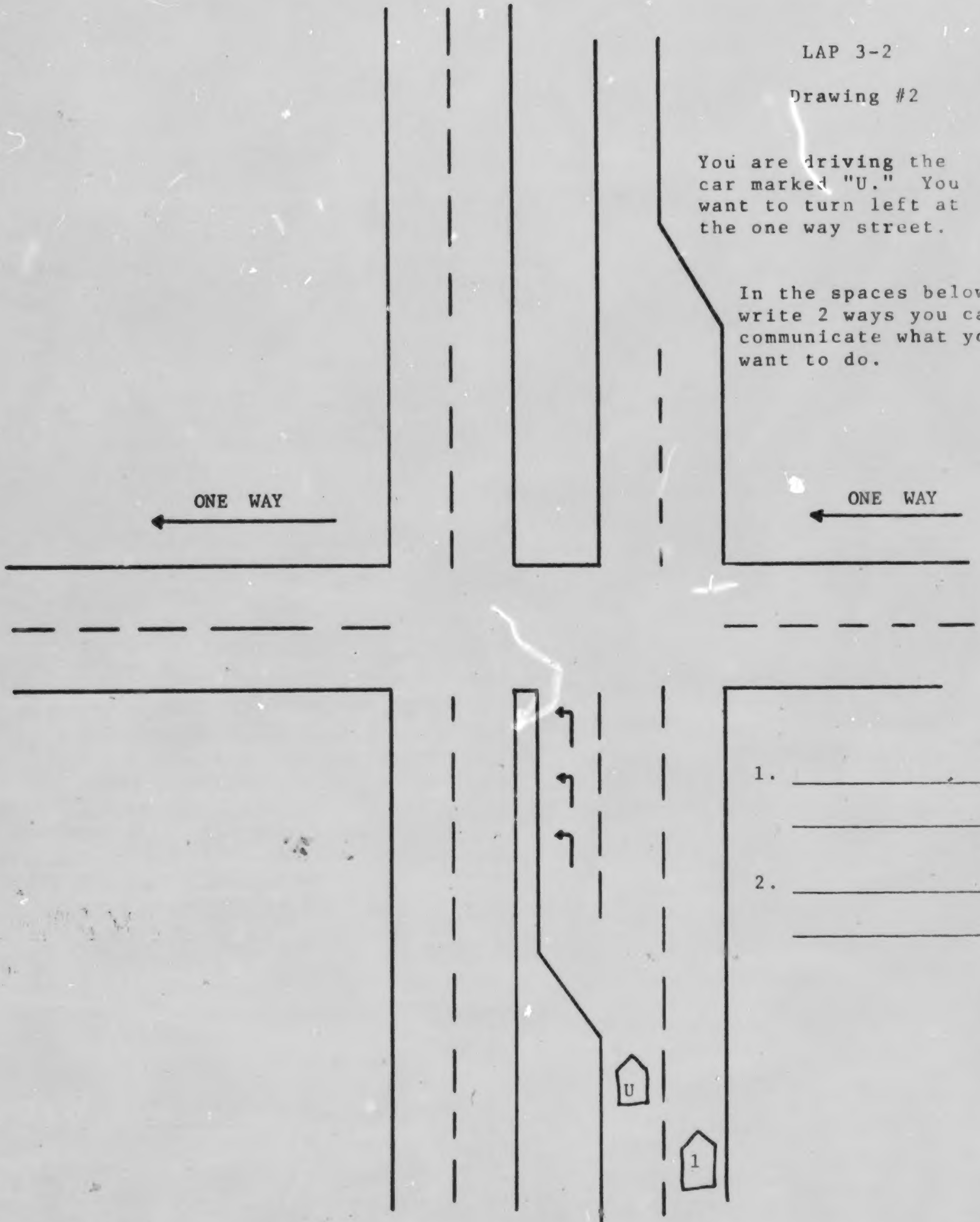
*Correct answers for Drawings #1 through #5 are provided on page 9.

LAP 3-2

Drawing #2

You are driving the car marked "U." You want to turn left at the one way street.

In the spaces below, write 2 ways you can communicate what you want to do.

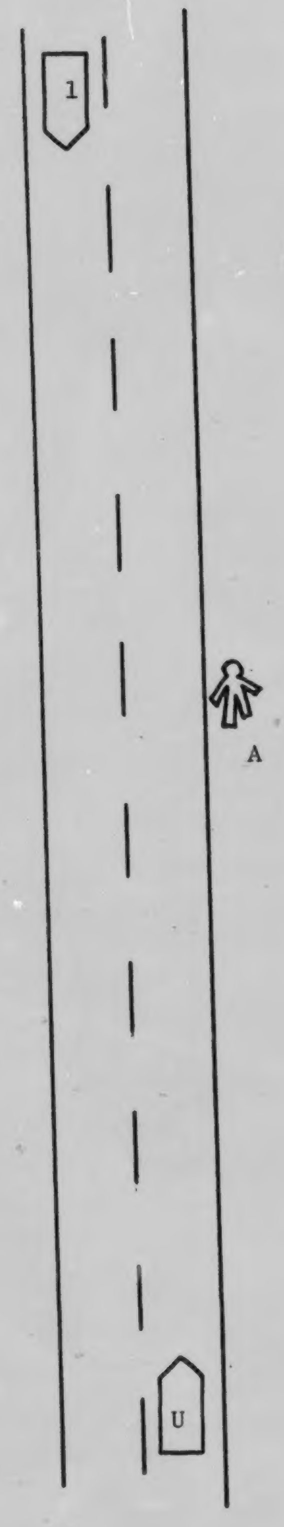


1. ______________________________

____

2. ______________________________

____



LAP 3-2

Drawing #3

You are driving the car marked "U."

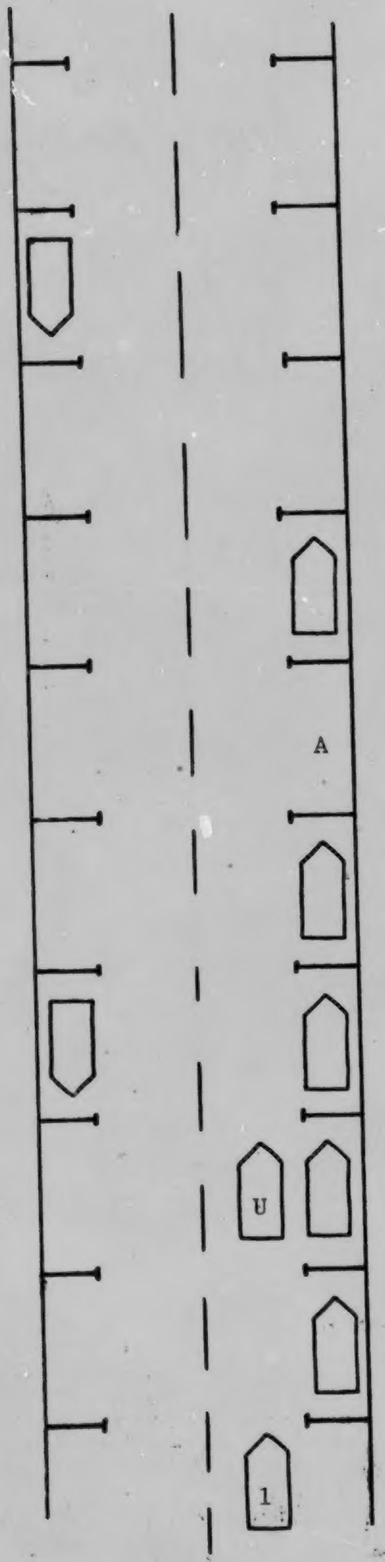
You notice a person, walking next to the road at A.

What, if anything, should you do to communicate? Write it here:

____

____

* * *



LAP 3-2

Drawing #4

You are driving the car marked "U." You want to pull into the empty parking space at A.

1. Circle what you should be observing.

2. How would you communicate what you want to do? Write how you would communicate here:

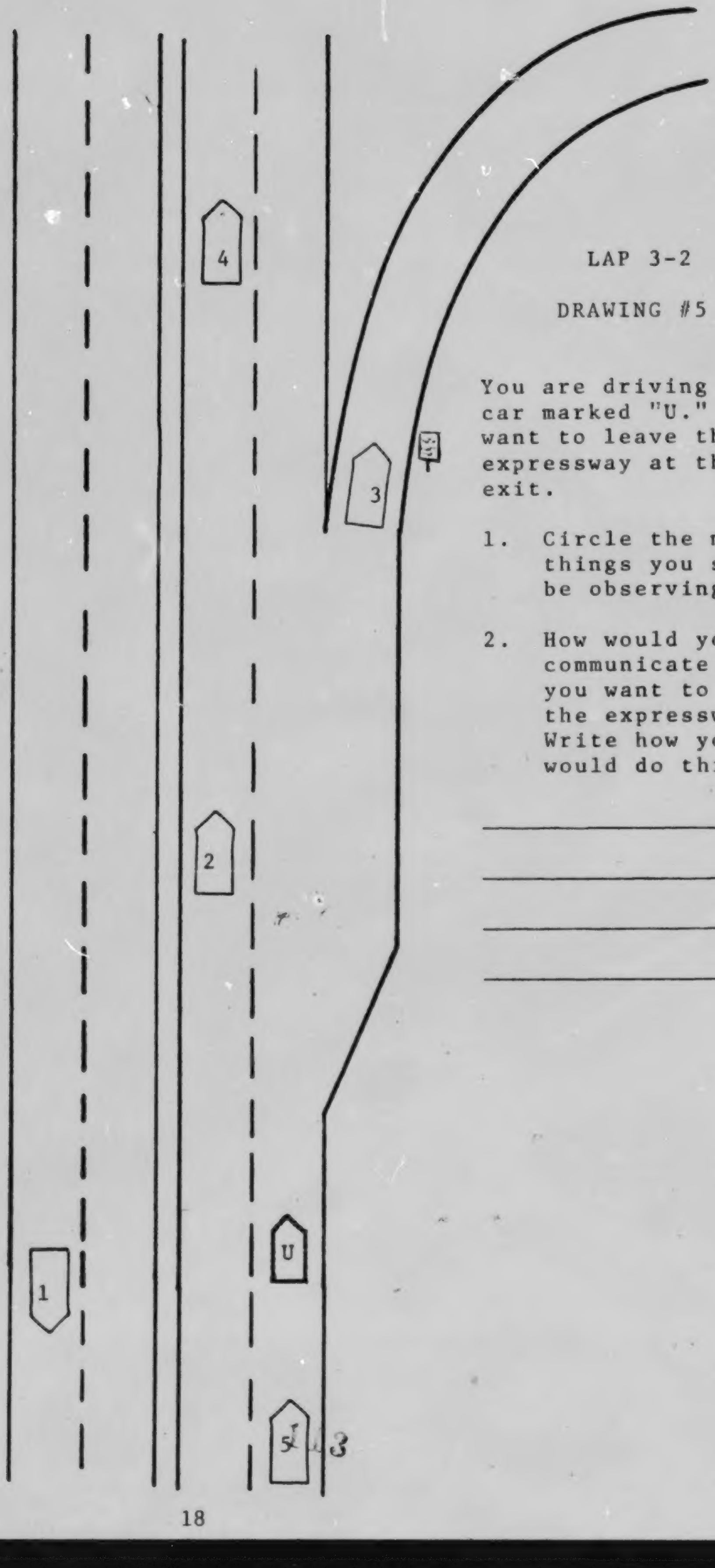
   ____

   ____

   ____

3. If traffic were heavy, where would you stop your vehicle in order to communicate to Car #1 that you intend to park?

   ____



LAP 3-2

DRAWING #5

You are driving the car marked "U." You want to leave the expressway at this exit.

1. Circle the main things you should be observing.

2. How would you communicate that you want to leave the expressway? Write how you would do this:

____

____

____

____

LEARNING ACTIVITIES PACKAGE 3-3

ADJUSTING SPEED

SAFE DRIVING COURSE

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WHAT HAPPENS IN THIS LAP

In this LAP, you will learn how to adjust the speed of your car in response to road and traffic conditions. You will learn how to enter and leave the roadway at a safe speed and how to move safely with the flow of traffic. And finally, you will learn how to adjust your speed in the presence of people and things that may be hazardous to safe driving.

WHY STUDY THIS LAP

There is no way that you can get on a roadway, accelerate to the speed limit, and just sit back and relax and keep driving at top speed. Things will happen outside the car, or you will want to make changes in your driving, like pass the car in front of you, or leave the roadway. And all of these things will require you to make changes in your speed. This is why you study this LAP--to know when and how to adjust your speed in response to what you see or to be able to do what you want to do--safely.

WHAT YOU NEED TO LEARN

1. Speed Control
    a. How to judge a safe speed
2. Adjusting Speed to Traffic Flow
    a. When entering traffic
    b. When leaving traffic
    c. When moving with traffic
3. Adjusting Speed to Roadway
    a. Surface conditions
    b. Hills
    c. Curves
    d. Intersections
    e. Off-street areas
    f. Structures on roadway
4. Adjusting Speed for Problem Areas

SPEED CONTROL

Almost every kind of roadway in any location will have signs that tell you the top, or maximum, speed you are permitted to drive on that road. These speed limits are set by law in the state and community where you are driving. If you drive faster than the posted speed limit, you are breaking the law.

There are speed limits for driving in city and residential areas (usually 25 or 30 miles per hour), in the open country on dirt and gravel roads (take it easy!), and on high-speed, multilane roadways, like Interstates and expressways. Check your state driver's guide for speed limits in your area.

Some open country roadways and most expressways, in addition to having a maximum speed limit, have a minimum, or low, speed limit. You cannot drive under this speed, or you break the law. Why a minimum speed limit? Because on a high-speed roadway, a slow driver is a hazard to other drivers.

How to Judge a Safe Speed

Do you have to drive as fast as the posted limit? Of course not. Maximum speed limits are set on the basis of good driving conditions--good weather, good roads, good traffic conditions, and a car which is in good mechanical condition. You will not find these conditions all at one time very often.

You must learn to adjust your speed to the driving conditions at the time you're driving. This is a safe and sensible speed, and one that you should feel comfortable with.

Even under good conditions, you continually have to make adjustments to your speed in response to changes in traffic flow or direction.

Adjusting your speed is one of the two ways you respond as you drive. The second is adjusting the position of the car, which is discussed in the next LAP.

You can adjust your speed in three ways: increase it, decrease it, or maintain it.

ADJUSTING SPEED TO TRAFFIC FLOW

Whether you're entering, leaving, or moving with traffic, you must not interfere with the smooth flow of traffic. When you try to enter a stream of traffic when there isn't enough room for you; when you slow down while you're in the stream of traffic, you force cars behind you to slow down suddenly. And thus, you set the stage for a crash which may not even involve you. It is more likely to involve cars behind you that were forced to slam on their brakes because you did something they didn't expect you to do.

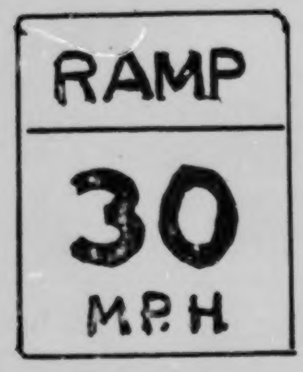
So remember—DON'T INTERFERE WITH THE SMOOTH FLOW OF TRAFFIC.

A good general rule is to drive at about the speed that other cars are driving, making sure not to exceed the speed limit. If you do this, you will be able to maintain a more even speed. You will also be able to keep a safe distance between you and the cars around you, unless other drivers are violating the speed limit laws.

When Entering Traffic

When entering traffic from the roadside or from a parking space, wait for space to enter safely. Then accelerate smoothly into the space. As soon as you're in the line of traffic, increase your speed until it matches the speed of the other cars.

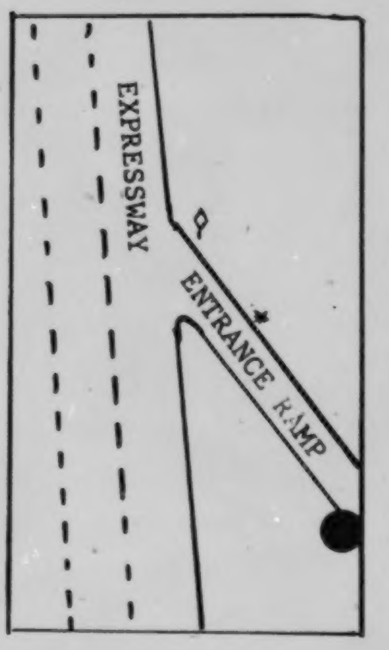
From entrance ramp without acceleration lane.



An entrance ramp without an acceleration lane (also called a short entrance ramp) is not as safe as one with an acceleration lane. Watch for posted speed limits on the ramp.

On the ramp, accelerate and maintain a safe speed until you know what the traffic conditions are on the expressway. If there are not cars approaching on the expressway in your lane, continue to accelerate without slowing; then enter the expressway and accelerate to normal speed.

When cars are approaching, accelerate to the speed of the approaching cars as much as possible, keeping a careful eye ahead of you for other cars on the ramp. You may have to slow down or stop if cars ahead of you on the ramp have to wait for space to merge. If necessary, stop near the end of the ramp (see * in diagram) and wait for a safe time to enter the flow of traffic. Try to allow other cars on the ramp to merge into traffic before you enter the ramp. If this is not possible, give yourself some distrance in which to accelerate.



Expressway entrance ramp without acceleration lane. →

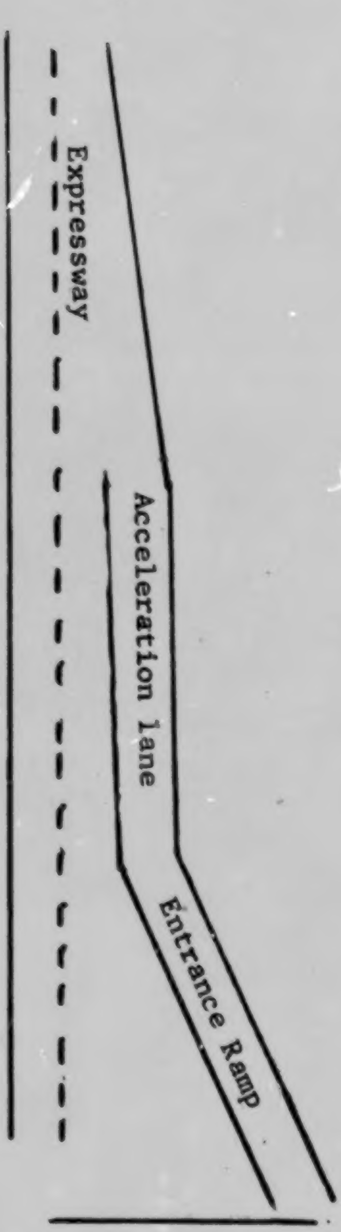
From entrance ramp with acceleration lane.

An entrance ramp with an acceleration lane is often called a long entrance ramp. Why is this kind of expressway entrance less hazardous than a short entrance ramp? Because the acceleration lane permits you to accelerate to the speed of the traffic on the expressway before you merge onto the expressway. It also gives you more time to observe traffic on the expressway.

Avoid slowing down in the acceleration lane. When you do, you force the drivers behind you to slow down. And then you're all set up for a rear-end crash.

Avoid stopping at the end of the acceleration lane before you merge. When you do this, you throw away the advantage of having an acceleration lane. By stopping at the end of an acceleration lane, you enter the expressway from a stopped position, which means it will take much longer to match your speed with that of the cars on the expressway. While you're accelerating from a stopped position, cars that seemed a long way behind you have been moving at high speeds and have zoomed up directly behind you.

If you have to hesitate on the acceleration lane to wait for space to merge, hesitate at the beginning of the acceleration lane, not at the end.

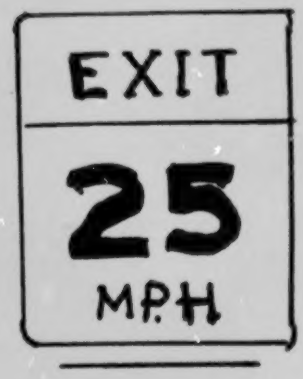


When Leaving Traffic

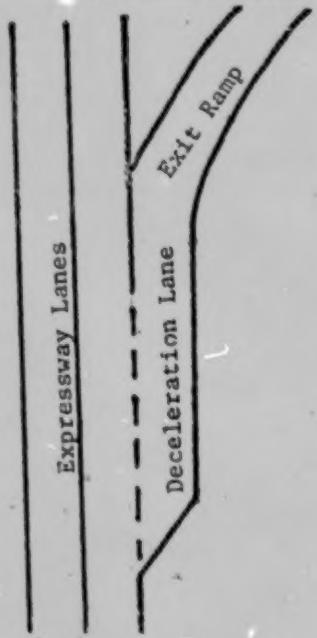
In general, when leaving a line of traffic, signal to other drivers what you plan to do, then begin to slow down by easing up on the accelerator and applying your brakes. Your signals and the brake lights will warn drivers behind you that you're slowing down.

On exit ramp without deceleration lane.

When there is no deceleration lane, you have to slow down on the expressway. You must signal your intentions well in advance so that drivers behind you can get ready for your maneuver. After high speed driving, you will think you have slowed down more than you really have. The only way you can be sure you have decelerated enough to drive the exit ramp at a safe speed is to check the speedometer. The exit ramp will have a posted speed limit.



On exit ramp with deceleration lane.



An exit ramp with a deceleration lane provides a safe way to leave an expressway. The deceleration lane allows you to leave the flow of traffic before you begin to slow down for your exit.

You still must signal your intentions to leave the roadway. As you approach the end of the deceleration lane, make sure your speed is low enough to drive the exit ramp safely. The exit ramp usually curves off the deceleration lane, and there will usually be a Stop or Yield sign at the end of the exit ramp.

Exit ramp with deceleration lane.

Moving With Traffic

We've said that a good general rule for adjusting your speed to the flow of traffic is to drive at about the speed that other cars around you are driving, making sure that you keep at or below the posted speed limit. You will have to pass other cars less often; you will have to increase your speed less often or decrease your speed less often.

Often, however, you will have to make adjustments to your speed for special maneuvers and conditions. These include:

1. Passing another car.
2. Being passed by another car.
3. Following a large vehicle on a hill.

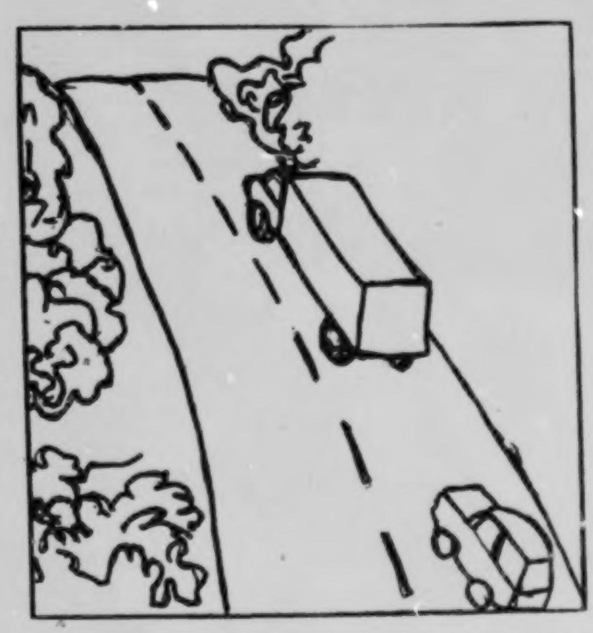
1. Speed Adjustments When Passing Another Car.

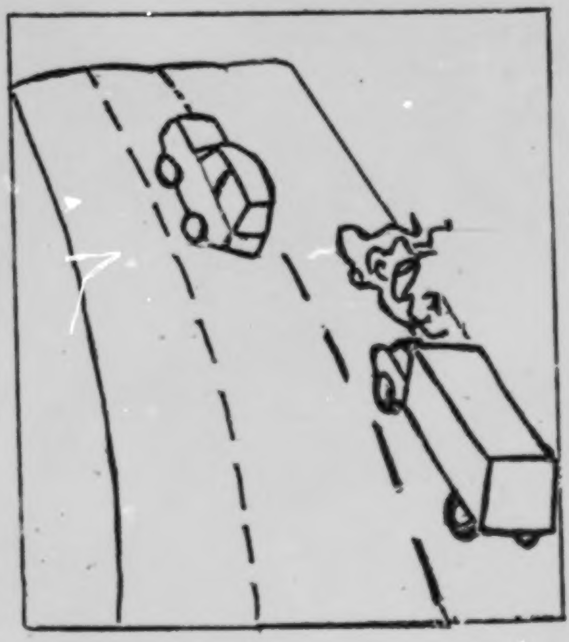
When you wish to pass the car in front of you, accelerate within the speed limit while you're still behind the car. Then overtake the car gradually to give the driver time to react to your maneuver. Remember, don't stay in his blind spot any longer than necessary.

2. Speed Adjustments When Being Passed.

If another driver wants to pass you, let him--and help him, if necessary. If you see that an oncoming car will crowd him in completing his passing maneuver, slow down and move to the right side of your lane to give the passing driver space to quickly re-enter the driving lane in front of you. If he cannot complete the pass, help him here, too. Increase your speed so that he can re-enter the driving lane behind you.

3. Following a Large Vehicle on a Hill.





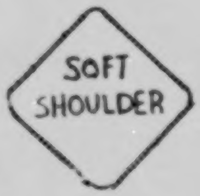
A heavy vehicle, like a truck or a bus, loses speed going up a hill, of course, so you must be prepared to slow down and maintain a safe distance behind the vehicle. (Sometimes, steep hills will have a climbing lane for slow-moving vehicles. This permits regular traffic to maintain normal speed on an upgrade.) If there's a stop sign at the top of a steep hill and you're behind a truck, don't stop too close behind it. Heavy vehicles tend to roll back a few feet in getting started again.

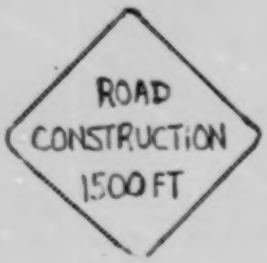
ADJUSTING SPEED TO THE KIND OF ROAD

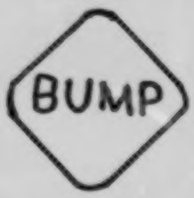
The better the road, the safer it is for driving at higher speeds--but within the maximum speed limit, of course. Expressways, Interstates, and other multilane roadways have the highest posted speed limits. This is because these roads have a well-maintained concrete surface which provides good contact with your tires, which means you have better control of your car. The shoulders on multilane roadways are wide and firm, and there are fewer objects alongside these roads to cause hazardous driving. Curves on these roads are gentle and can generally be driven at the normal driving speed. They usually do not require you to reduce speed.

"Bad roads" require you to drive more slowly. A dirt or gravel road or one that has holes, bumps, and dips does not provide good contact with your tires. Thus, driving too fast on a bad road can cause you to lose control of the car.

Diamond-shaped warnings signs, (yellow or orange with black lettering), like these to the right, are set up alongside the road in advance of the problem area to give you time to reduce your speed.







A road can be "good" but still require you to make adjustments in speed. For example, a roadway in the open country can be paved and well-maintained. But it may have sharp curves and steep hills.

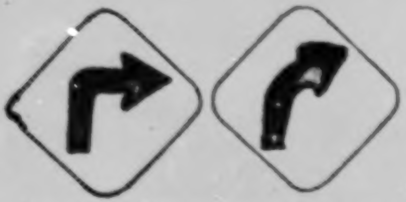
Adjustments to Speed When Driving on a Hill.

In climbing a hill, your car will lose power and therefore will lose speed. To maintain speed when driving up a hill, apply more pressure to the accelerator. As you near the top of the hill, ease up on the accelerator so you don't start down the hill too fast. Going down hill, your car will gain speed, even without pressure on the accelerator. To get down the hill safely, let up on the accelerator and apply the brake as necessary, until you approach the bottom of the hill where the road levels out. Then begin to accelerate, if needed, to return to normal driving speed.

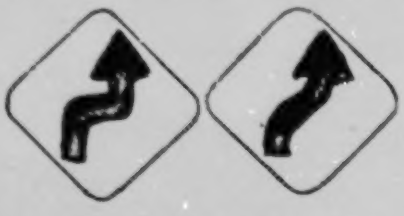
Adjustments to Speed When Driving on a Curve.

Watch for posted speed limits and for signs indicating how sharp the curve is (SEE DIAGRAMS ON NEXT PAGE.) If you take a curve too fast, your car can go into a skid, or it can swing partly into another lane. Begin slowing down before you reach the curve. If you find you have decelerated too much, press the accelerator a little bit to pick up a little speed. As you leave the curve, accelerate to your normal speed.

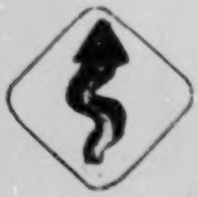
REGULAR CURVE SIGNS



REVERSE TURN SIGNS



WINDING ROAD SIGN



The regular curve sign at the left (A) indicates a right angle curve, and your good sense tells you that you will have to slow down to take this curve as much as you would to make a right turn at an intersection. The right-hand sign (B) for regular curves is much less sharp, and so your speed adjustment would be less.

Adjustments to Speed at Intersections

Any place that has a complicated flow of traffic requires you to slow down as you approach. An intersection has a complicated flow of traffic. There are cars moving in several directions. At intersections in cities and towns, pedestrians complicate the traffic situation further.

As you approach an intersection, slow down gradually so that you can stop the car, if necessary, by the time you reach the pedestrian crosswalk or the intersection itself.

Be prepared to reduce speed in response to Yield signs or to cars that fail to obey traffic signs and signals. Be aware of the signs and signals which other cars "should" be obeying.

If you're turning at an intersection, your speed should not fall below 5 miles per hour (unless traffic requires you to drive even more slowly than that). Slow before entering the turn, and accelerate slightly while turning.

Adjustments to Speed in Off-Street Areas

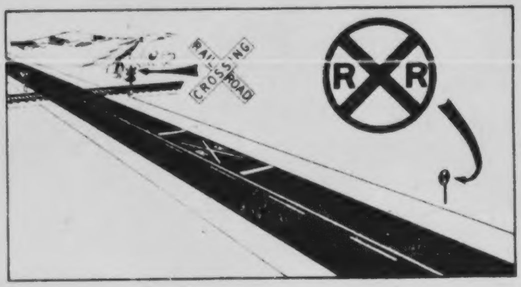
Off-street areas include alleys, parking lots, driveways, and shopping centers. Because there generally aren't any traffic controls in these areas, traffic is kind of an every-driver-for-himself arrangement. Cars are backing up, going forward, cutting across, and pedestrians are walking around not paying too much attention to the movement of cars. On top of these problems, your visibility can be poor because of parked cars, tall buildings, and other objects.

So how should you drive in an off-street area? Very carefully! If there are marked-off traffic lanes, drive in them at a slow enough speed so that you can stop quickly.

Adjusting Speed to Structures on Roadway

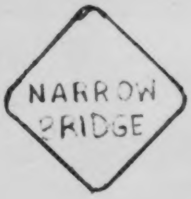
Structures on the roadway, such as railroad crossings, bridges, tunnels, and toll plazas for multilane highways, often require adjustments in speed.

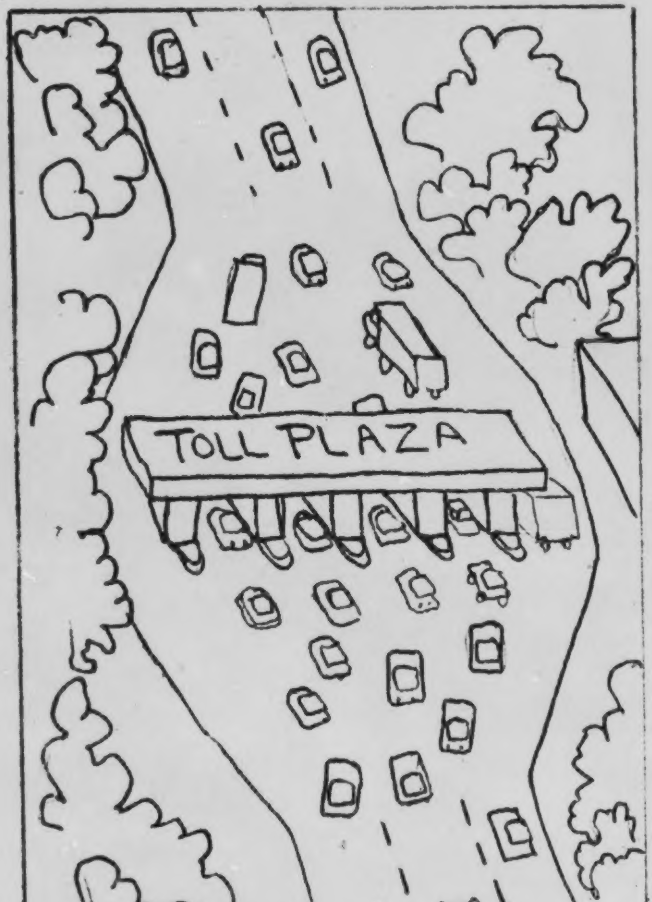
Signs will warn you in advance that you're approaching one of these structures in the road. (See illustrations of railroad crossing signs at the right.)



When approaching one of these places, reduce speed gently until you're clear of the area, then accelerate gradually to normal speed.

Often at these places you will have to slow down and stop. For example, an approaching train requires you to stop until the crossing is clear. Or a "Narrow Bridge" sign will tell you that it will be safer to wait until oncoming cars have cleared the bridge before you start across.





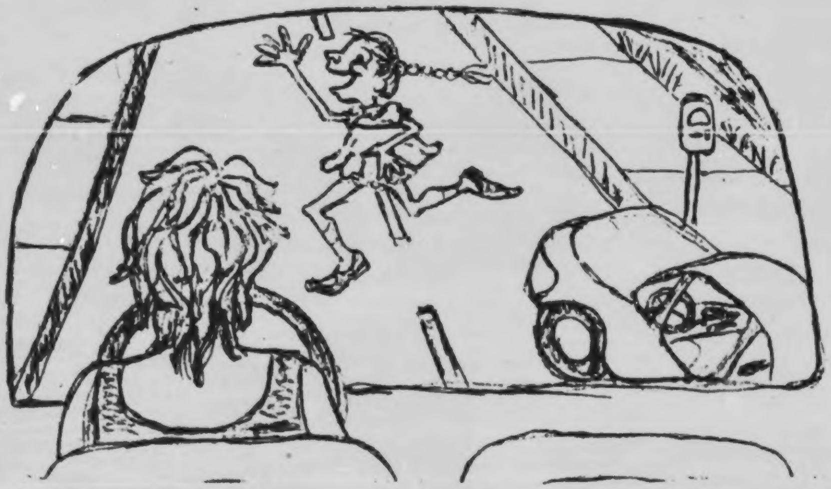
At Toll Plazas.

Toll plazas require special and quick visual scanning. At all times, you will have to reduce speed, watching other traffic very carefully while you position your car in the correct lane. Then stop the car parallel to a toll booth, pay the fee required for using the expressway. Then accelerate gradually after leaving the toll booth, again watching other traffic carefully, position your car in the correct lane, and resume normal speed. Remember to watch for signs before you get to the toll booth, so that you ca get in the appropriate lane.

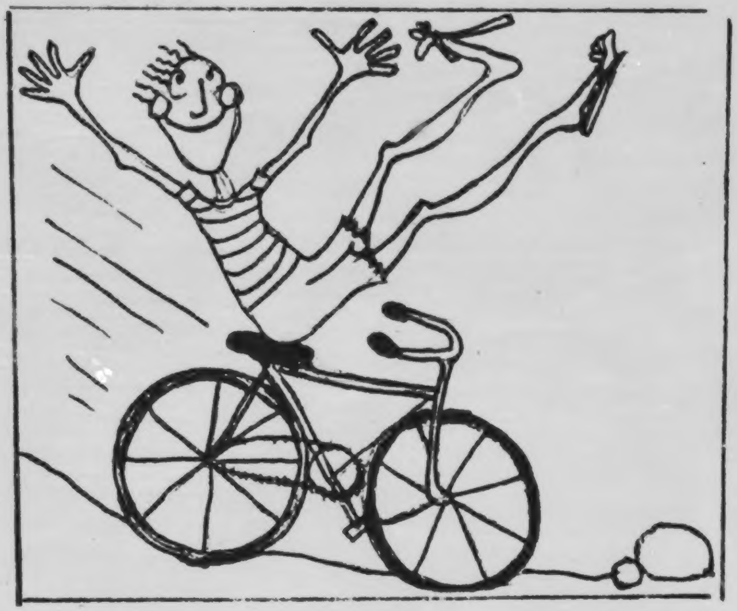
ADJUSTING SPEED FOR PROBLEM AREAS

At 20 mph you may be driving too fast for a situation like the one at the right.

Slow down in problem areas like intersections, school crossings, apartment buildings, playgrounds, and other areas where pedestrians may do something unexpectedly.



- In parking lots, drive slowly because of unpredictable movement of cars and people.
- Watch your speed carefully when driving alongside parked cars. Occupants in parked vehicles may get out of the car on the street side.
- When approaching cyclists or pedestrians, reduce speed gradually by pumping your brakes (which warns drivers behind you) and then move gradually away from them as far as is practical and safe. You cannot predict when a person on a bike will cause a serious problem for himself and you. So a slow speed is best.
- Reduce speed when entering an animal crossing or when you see animals. Prepare to stop--or swerve, if it is safe to do so.



- Watch for children around a school zone. Make sure you stick to the "school speed zone" limit.

REVIEW REVIEW ADJUSTING SPEED REVIEW REVIEW

- A safe speed is one that you set on the basis of present driving conditions.
- Adjusting Speed to Traffic Flow
  - Avoid interfering with the smooth flow of traffic.
  - Drive at about the same speed as that of cars around you.
  - Do not exceed posted maximum speed limits; watch for posted minimum speed limits.
  - When entering traffic from roadside or short entrance ramp--
    - Accelerate smoothly into the line of traffic when it is safe to do so; match speed with that of other cars.
    - On long entrance ramp, use acceleration lane to accelerate to speed of traffic, then merge.
  - When leaving traffic--
    - Watch for posted exit speeds.
    - With short exit ramps, after signaling intentions, decelerate on roadway to a safe speed.
    - With long exit ramp, reduce speed on deceleration lane to avoid interfering with flow of traffic and to be able to enter exit ramp at safe speed.
  - When passing, accelerate behind car you want to pass, then overtake car gradually, trying to go through the blind spots as quickly as possible.
  - When being passed, assist driver, as necessary, to pass safely.
- Adjust Speed to Roadway
  - Watch for signs of bad road conditions and be prepared to slow.
  - On a hill, maintain speed on upgrade; on downgrade, ease up on accelerator and apply brakes to reduce speed.
  - On curve, reduce speed before entering curve; accelerate again as curve ends and return to normal speed.
  - Intersections, slow down gradually as you approach and be prepared to stop for complicated traffic movements.
  - In off-street areas, drive slowly and expect sudden movements from pedestrians and other cars.
  - When approaching railroad crossings, bridges, and other roadway structures, reduce speed and be prepared to stop.
- Adjusting Speed for Problem Areas
  - Slow down in areas where children, cyclists, and animals are likely to move or change direction suddenly.

CHECK POINT: TEST YOUR UNDERSTANDING

When you think you understand the information contained in this LAP, answer the questions below. After you have answered them, turn the page for the correct answers.

1. A safe speed for the road you're driving on is:

   a. The maximum posted speed limit.

   b. A speed well below the maximum limit.

   c. A speed over the maximum, because other cars are driving over the maximum speed limit.

   d. A speed that is based on present road conditions, traffic conditions, and weather conditions.

2. You are entering an expressway from a long entrance ramp. To enter as safely as possible you should:

   a. Maintain a slow speed on the acceleration lane, and accelerate after you merge onto the expressway.

   b. Match your speed to the speed of expressway traffic while you're on the acceleration lane, then merge.

   c. Merge from a stopped position at the end of the acceleration lane.

   d. Go around the car ahead of you on the entrance ramp if he is moving too slowly.

3. When you want to pass the car ahead of you, you should:

   a. Give the driver a good blast with your horn.

   b. Overtake and pass the car as fast as you can go.

   c. Accelerate while you're still behind the car, then overtake him gradually.

   d. Cut in sharply in front of the car as soon as you've passed him.

4. When you see a warning sign that you're approaching a narrow bridge, you should:

   a. Maintain your present speed.

   b. Slow down and start across the bridge while other cars are approaching, and hope the bridge is wide enough.

   c. Slow down and be prepared to stop if necessary, until oncoming cars have crossed the bridge.

ANSWERS TO CHECK POINT TEST

1. The correct answer is "d"--A safe speed is based on present road conditions, traffic conditions, and weather conditions. Maximum posted speed limits are established on the basis of good driving conditions in all of these areas, and you won't always find all conditions "good" at the same time. A speed well below the maximum limit ("b") can be as dangerous as a speed over the maximum limit. When you drive too slowly, you force other drivers to take risks in passing, and you interfere with the flow of traffic. Just because other drivers exceed the speed limit ("c") is not an indication you should. When exceeding the speed limit, you break the law.

2. The correct answer is "b"--Match your speed to the speed of expressway traffic while you're on the acceleration lane. This is what an acceleration lane is for. By using it correctly, you avoid interfering with the flow of traffic. Avoid stopping at the end of an acceleration lane. When you do stop, you and other drivers behind you must then merge with high-speed traffic from a standing position, and this can be dangerous. Of course, you must never pass another car on an entrance ramp.

3. The correct answer is "c"--Accelerate while you're still behind the car, then overtake the car gradually. Do not overtake and pass as fast as you can go. You should try to stay within the maximum speed limit, even when passing. Avoid cutting sharply in front of the car you pass. If it looks as if it's going to be a tight squeeze because of oncoming traffic, don't pass until you're sure it's absolutely safe.

4. The correct answer is "c"--Slow down and be prepared to stop until oncoming cars have crossed the bridge. Although a "Narrow Bridge" sign doesn't necessarily mean there is only one-way traffic, it does mean that you should reduce your speed as a safety precaution.

end

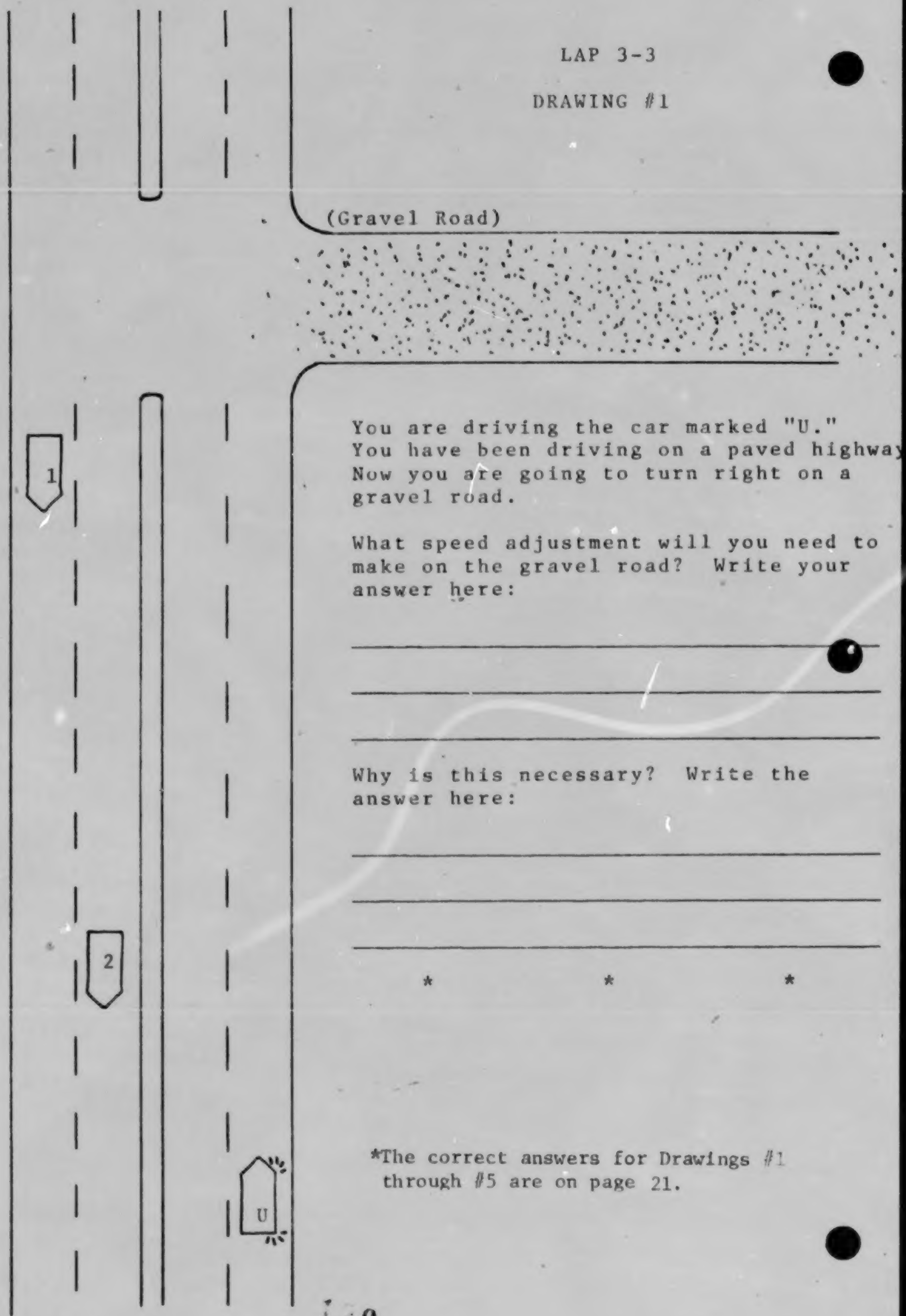
LAP 3-3

Things to Do On Your Own
or in
Guided Learning

If you're having problems with:	You can:
LAP 3-1 Recognizing traffic signs, signals, roadway markings...	Work in pairs or small groups and use flashcards on "signs, signals and markings," or look at slides on signs.
LAPS 3-1, 3-2, 3-3, and 3-4 Traffic--at intersections, on and off ramps, lane use...	Your instructor might show film (16mm) from the simulator lab for this unit.
LAPS 3-1, 3-2, 3-3, and 3-4 Observing, communicating, adjusting speed, positioning...	Watch one or two of these filmstrips. Pick the ones you think will help you the most: "Interacting with Traffic" "Safe Highway Driving" "Road Check" "Special Driving Techniques" "Separating & Compromising Risks" Pair up or work in small groups and look at slides used in class for this unit. Talk about all 4 principles --observing, communicating, adjusting speed, and positioning--for each slide. Do exercises at the end of your Unit 3 LAPS, or work in a small group and make up your own driving situations.
Procedures for passing...	Watch these (Ford) filmstrips and listen to the records that go with them: "The Basic Passing Maneuver" "Being Passed"
What to look for and what to do at intersections...	Watch (Ford) filmstrip, "Intersection Maneuvers" and listen to record.
Adjusting speed and positioning the car in traffic...	Look at (Ford) filmstrip, "Adjusting to the Changing Scene," and listen to the record that goes with it.

LAP 3-3

DRAWING #1



You are driving the car marked "U." You have been driving on a paved highway. Now you are going to turn right on a gravel road.

What speed adjustment will you need to make on the gravel road? Write your answer here:

____

____

____

Why is this necessary? Write the answer here:

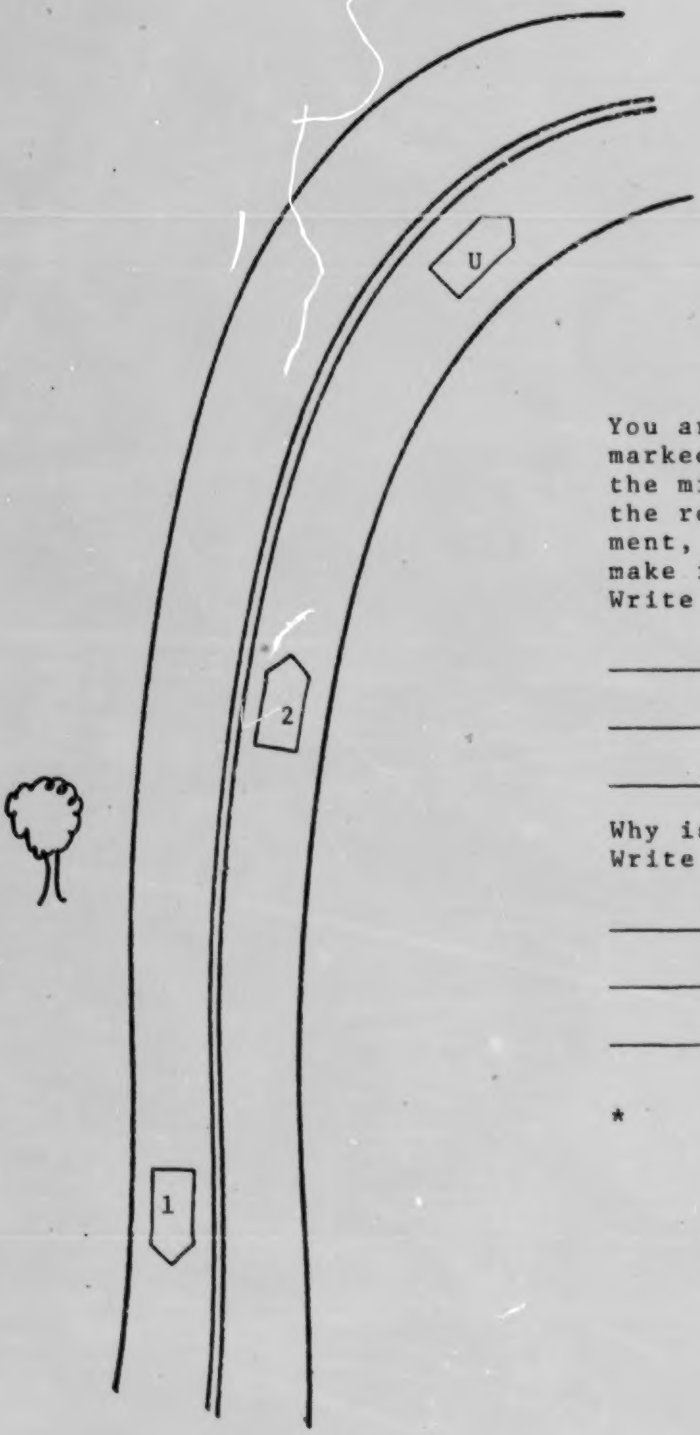
____

____

____

* * *

*The correct answers for Drawings #1 through #5 are on page 21.



LAP 3-3

DRAWING #2

You are driving the car marked "U." You are in the middle of a curve in the road. What adjustment, if any, should you make in your speed? Write your answer here:

____

____

____

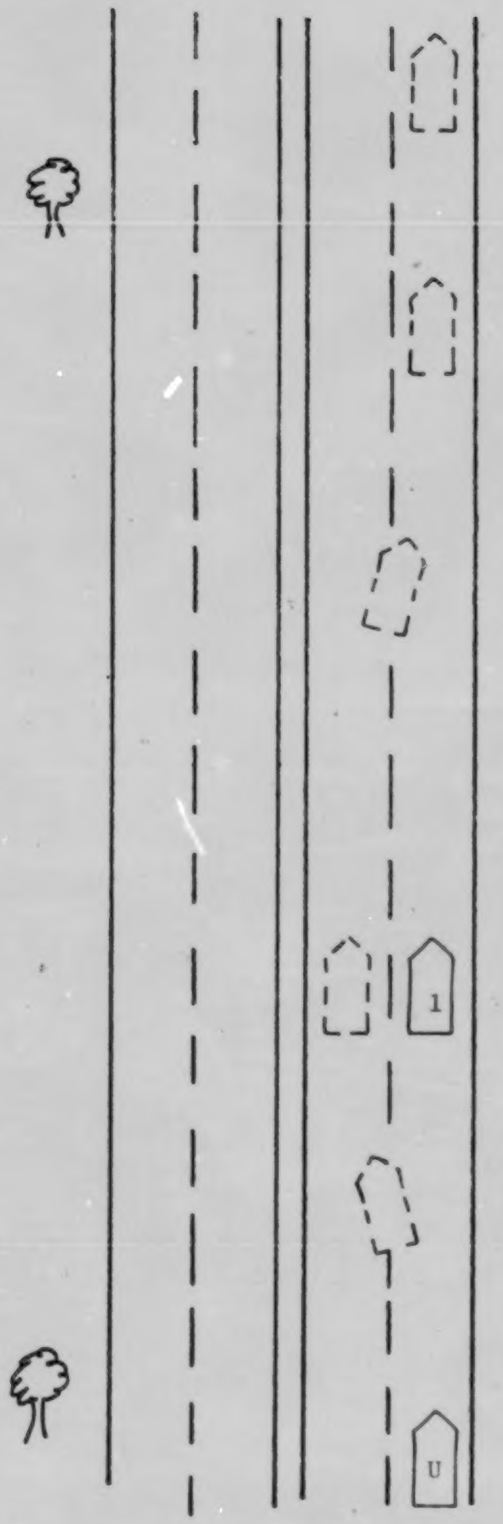
Why is this necessary? Write your answer here:

____

____

____

* * * * *



LAP 3-3

DRAWING #3

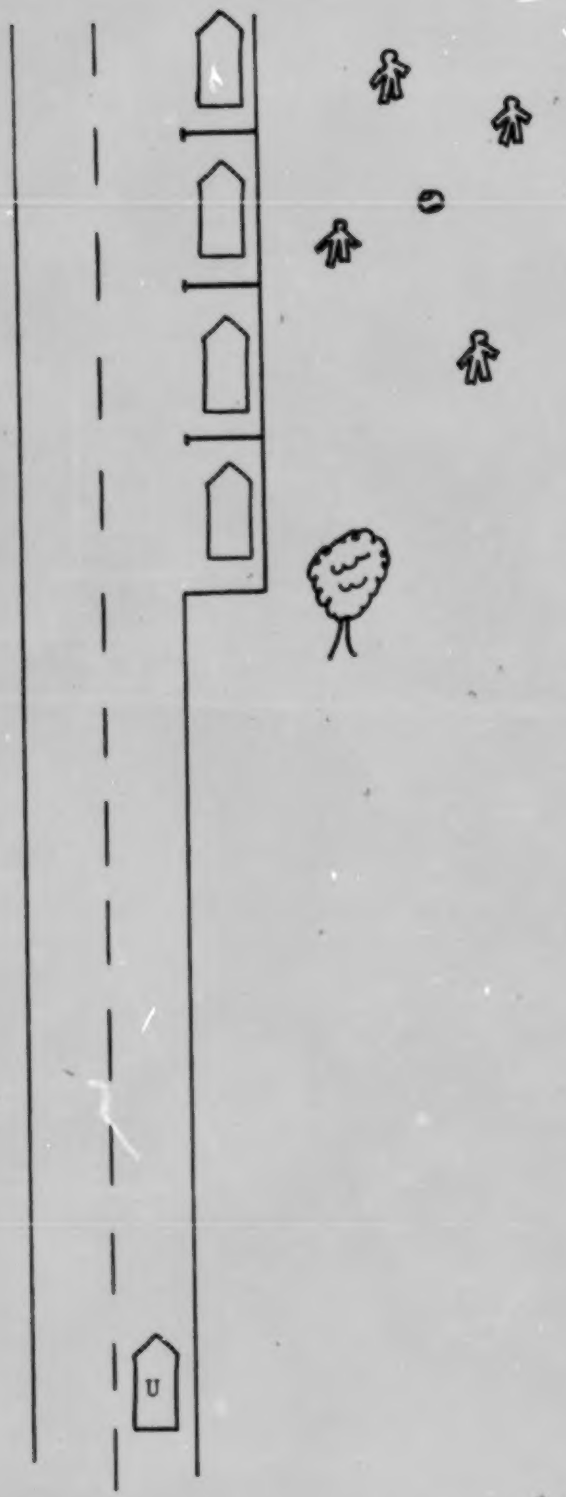
You are driving the car marked "U." You want t pass car #1. Put eithe A for accelerate, or M for maintain speed, o D for decelerate in eac of the unmarked cars

according to what you should do in passing.

Turn the page to check your answer.

LAP 3-3

Drawing #4



You are driving the car marked "U."

Draw a circle around the things you should be observing.

What, if anything, should you be doing to communicate? Write your answer here:

____

____

What, if anything, should you be doing to adjust your speed? Write your answer here:

____

____

* * * * *

LAP 3-3

DRAWING #5

You are driving the car marked "U." You are entering an expressway.

Draw a circle around the things you should be observing.

What, if anything, should you do to communicate? Write your answer here:

____

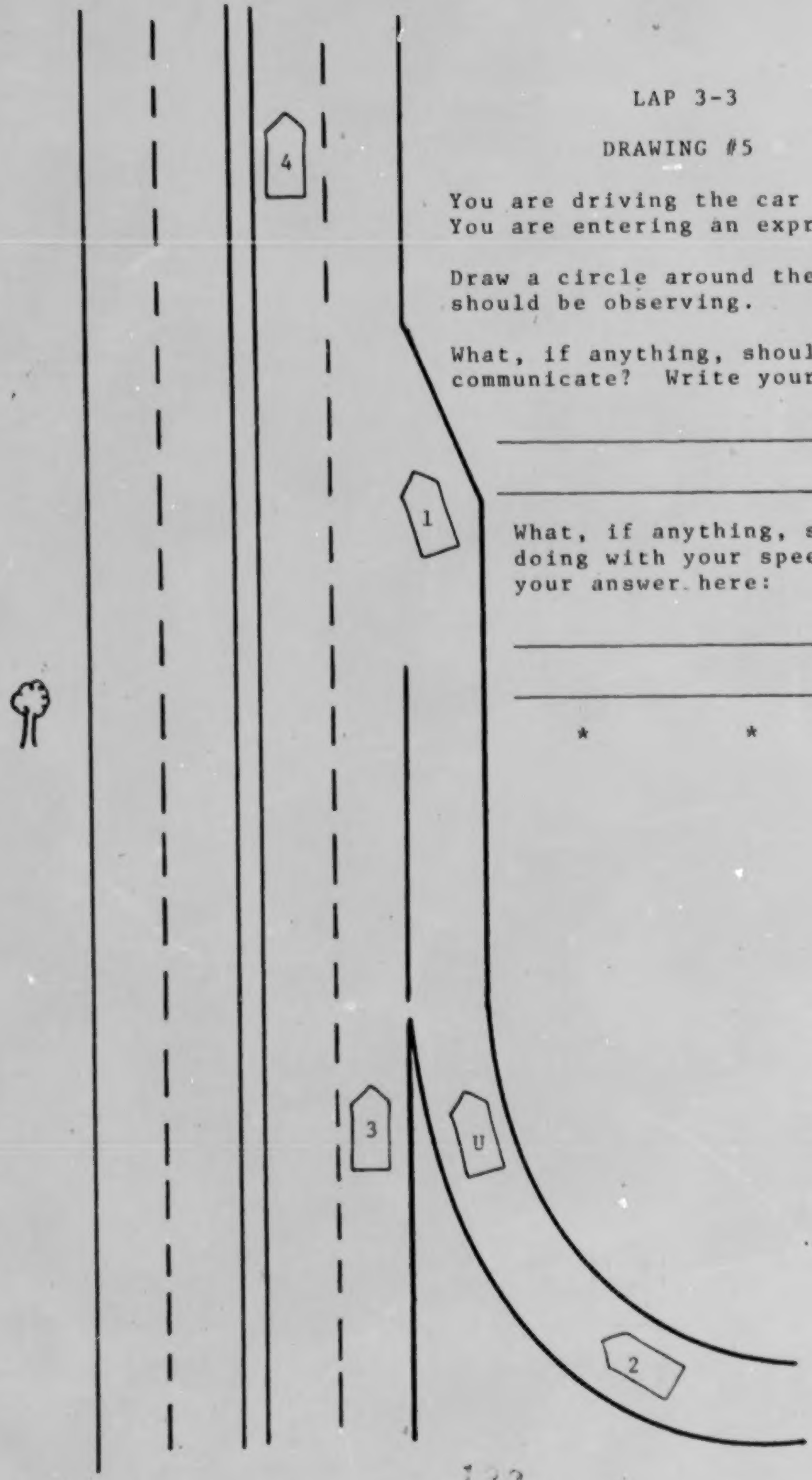
____

What, if anything, should you be doing with your speed? Write your answer here:

____

____

* * *



CORRECT ANSWERS TO LAP 3-3 EXERCISE

ANSWERS TO DRAWING #1

You will need to reduce your speed on the gravel road.

The reason you reduce your speed is that your car can be more difficult to control on gravel than it is on a paved highway. Your wheels have less traction. By slowing down, you increase your ability to stop or maneuver.

ANSWERS TO DRAWING #2

Unless you were going too fast when you entered the curve, you should maintain your speed. Do not slow down. This may mean pressing down a bit on the accelerator.

The reason is that a curve can slow your car down. Unless you give the car a little more "gas," you could slow down and interfere with car #2.

ANSWER TO DRAWING #3

Be sure that you do not decelerate too early or too much. If you do, you could interfere with car #1.

ANSWERS TO DRAWING #4

You should be observing the parked cars, since one might pull out, and the people playing ball, since someone could run into the street.

Unless you saw a person run toward the street, you don't need to honk to communicate. Applying your brakes will signal any traffic behind. You should slow down because of the hazards in this area.

ANSWERS TO DRAWING #5

You should be observing car #3 because it is in the lane you want to enter, car #1 because it could stop in the acceleration lane, and car #2 because it is following you.

You should put on your left turn signal to communicate.

You should accelerate so that you will enter the expressway at a speed with the traffic flow.

LEARNING ACTIVITIES PACKAGE 3-4

POSITIONING

SAFE DRIVER COURSE

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LAP 3-4

POSITIONING

WHAT HAPPENS IN THIS LAP

In the last LAP, you learned about adjusting the speed of your car. In this LAP, we'll consider speed and direction together and how you will use them to position your car. You must position the car to keep some space between you and other things--other cars, the curb, pedestrians, and trees. Here you will learn some of the important principles of positioning. These principles will involve keeping a "cushion of space" around you, yielding to the space requirements of others, and giving space as a courtesy.

WHY YOU STUDY THIS LAP

If all drivers positioned their cars to allow plenty of space around them, the number of accidents would be greatly reduced. By allowing plenty of space around your car, you'll have enough time to anticipate what will happen around you and, if needed, react to it. You still have to be alert and observe properly, though, even when leaving enough space. Knowing how much space to allow in different situations will help you become a better driver and keep you from having to learn by experience.

WHAT YOU NEED TO LEARN

A. Why and how to keep a "cushion of space" around your car.

B. How to compromise between two or more dangers that occur at the same time. How to separate two or more dangers.

C. Yielding space to other drivers.

D. How much space you must allow for yourself.

E. How to estimate the space you need.

F. How to limit the amount of space you need.

G. When to give space as a courtesy to other drivers.

H. Other rules for positioning your car.

KEEPING A CUSHION OF SPACE

In the LAP on OBSERVING, you learned to allow yourself "plenty of time to anticipate things that might happen around you." This "time to anticipate" applies as much to the way you control your car as to the way you observe. You can allow yourself time to anticipate by keeping as much space as you can between yourself and everything else on or near the road. This has been called "keeping a cushion of space."

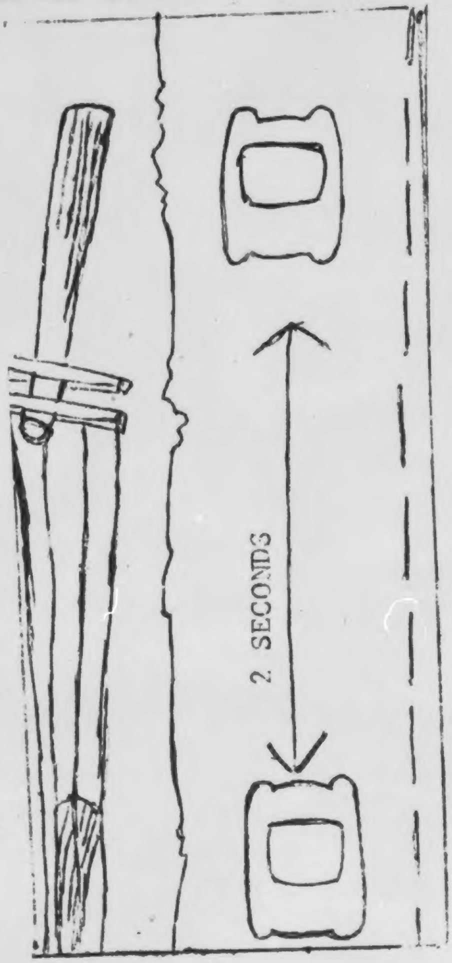
A Cushion Ahead

Let us say that you are driving through a city when suddenly the driver ahead of you stops. Can you **stop quickly** enough to avoid hitting him? First, you have to observe that he is stopping and then you have to get your foot on the brake. If you can do this before you reach the place where the other driver applied his brakes, you will probably stop in time. Whether you can do that depends on how close you were to the other car to begin with. This is called "following distance." Many drivers fail to allow enough space; that is why rear-end collisions occur more often than any other type of collision.

In order to allow yourself time to react to a sudden stop by the car ahead, you should try to stay at least 2 seconds behind. This will allow you enough time to react. It also lets you see the road you see the road ahead better. The best way to tell if you are leaving enough space is by counting. Pick a spot along the road ahead, like a telephone pole or a pavement marking. Watch when the car ahead passes it. Then count the time it takes the front of your car to reach the same spot. Try counting "1 one-thousand, 2 one-thousand." If you get to the spot before you count "2 one-thousand," you are following too closely.

The two-second following distance remains the same for all speeds. At 40 miles per hour or less, two seconds are also needed to stop your car. At speeds above 40 miles per hour, however four seconds are needed to stop your car. This means that from the location you see the object to the location you stop your car must be four seconds ahead. So, you can still keep a two-second following distance, but you must be able to react four seconds back from the place you want to stop your car. As long as you're scanning the roadway twelve seconds ahead, as we discussed in the "Observing" LAP, you'll be safe.

If you keep applying the 2-second rule at different speeds often enough, you will soon be able to judge distance without counting (although it's still a good idea to count it out).



While a 2-second space cushion is generally enough, there are times when more is needed. If you're behind a large truck, you may need to drop back farther to observe the road ahead. If you're behind a motorcyclist, it's best to leave a little more space because a motorcycle can stop more quickly than a car.

It is sometimes difficult to keep a 2-second space cushion if the cars ahead are slowing down or stopping often. Therefore, it's a good idea to use a lane in which traffic flows smoothly. The left lane is often blocked by traffic waiting to turn left; thus, the right lane may be a little better, although cars in this lane often have to slow down or stop for cars entering or leaving the highway. Of course, if there are three or more lanes, the center lanes may be best.

A Cushion to the Side

You need a space cushion to each side so that you have room to react to sudden moves toward your lane by other cars. These "moves" can come from oncoming cars, cars in the next lane, or parked cars.

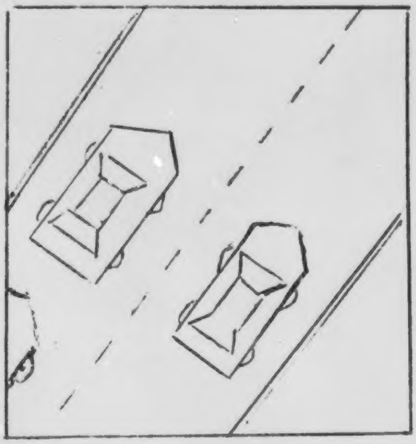
1. Oncoming Cars.

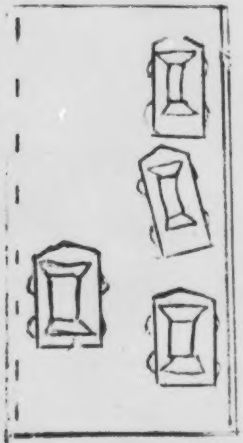
The driver of a car coming from the other direction (driving toward you) generally stays on his own side of the road. However, if he doesn't, the danger is particularly great because of his and your combined speed. Two cars traveling at 35 miles an hour approach at a combined speed of 70 miles per hour.

Try to keep at least one lane between you and oncoming cars. On four-lane roads (roads with two lanes in each direction), stay out of the left lane if you can. On two-lane roads (roads with one lane in each direction), keep as far to the right side of your lane as you can when other cars are coming and there is nothing on the right side of the road. This is particularly important on curves when another car may drift or cut across the center line.

2. Cars in the Next Lane.

Drivers in other lanes will occasionally move to the left or right without looking. It's not a good idea to travel alongside other cars or to travel in their"blind spot." (as the cars in the diagram are doing)--if you can help it. Either speed up or drop back so that the lane next to you is clear.



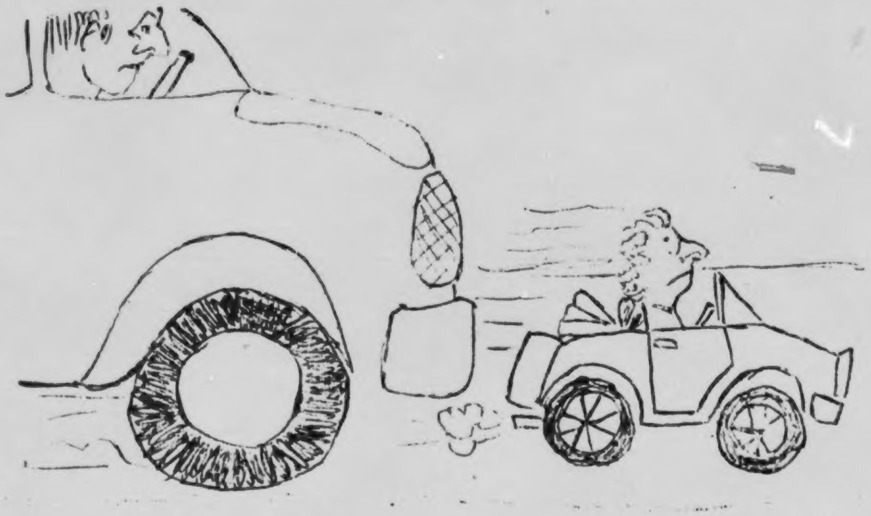


3. Parked Cars.

Parked cars do not always stay parked. Sometimes a driver will move his car out suddenly. Sometimes he will park his car and suddenly get out of the car. Or a pedestrian will move out from behind a car. Try to keep a space cushion between yourself and other parked cars in case one of them does something unexpectedly--like pulling out in front of you. Signs that a car might be pulling out of a parking space are brake lights, back-up lights, or a person in the driver's seat. Be sure you make the proper observations, speed adjustments and communications when driving along parked cars.

Try to keep a space cushion between you and anything that might block your view of the roadside. On residential streets, this may mean driving toward the middle of the road. Don't worry; just be ready to move over if another car comes. At least you can see another car coming; you cannot always see what is hiding behind a parked car.

A Cushion Behind



There's not much you can do to keep a cushion of space behind you. That's pretty much up to the drivers following you. However, if you are travelling at or around the posted speed limits and you're being "tailgated," that is, followed too closely, you might encourage the guilty driver to pass you. Move into the right-hand lane if there is one. Otherwise, wait until the way ahead is clear and then slow down to encourage him to pass. Tailgating is generally a sign of impatience, and slowing down is probably the best way to get an impatient driver to pass you. When you're being "tailgated," allow a three or four-second following distance between you and the car ahead. Then, if the car ahead makes a sudden stop, you can still stop gradually, giving the "tailgater" time to react too.

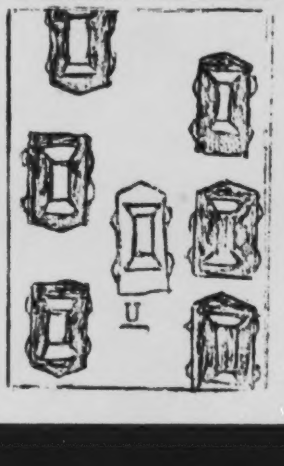
COMPROMISING AND SEPARATING RISKS

"Keep right to avoid oncoming cars; keep left to avoid parked cars."

What do you do if you face oncoming traffic and parked cars at the same time?

Whenever you are faced with two risks or hazards at the same time and neither of them can be avoided, you will have to work out a "compromise." That means: if the two hazards--oncoming traffic and parked cars--are about equal (in terms of damage - property damage and personal injury - which can be done, and in terms of the probability that the hazard will enter your path of travel), it would be best to steer a middle course between them and reduce speed. This will not leave you as much of a space cushion as you would like, but it still leaves you some space for reacting to sudden moves from either side.

The diagram at the right shows what a "compromise" is. U are taking a middle course between two hazards.



Sometimes one danger is greater than another. Let's say that you have a stream of traffic on your left; but instead of parked cars on your right, there is a child on a bicycle. The child is much more likely to be hurt since he is on a bicycle, and he's also more likely to enter your path of travel. You should give the child a lot of room even if it means moving close to the oncoming cars.

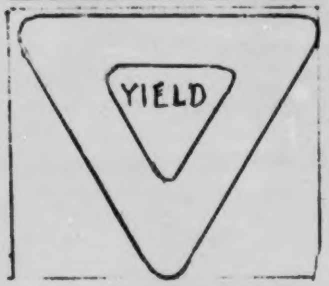
Sometimes you can "separate" two dangers rather than compromise between them. Let's say there is only one oncoming car rather than a stream of traffic, but there is still the child on the bike on your right. You can "separate" these two dangers. Here's how. Instead of driving between the oncoming car and the cyclist, slow down and allow the car to pass you before you pass the cyclist. This idea of facing possible hazards one at a time is called "separating your risk." You arrange things so that you take the risks one at a time. It helps you keep your cushion of space.

"Rating" hazards in terms of criticality - or damage which can be done - and probability, will be discussed in greater detail in LAP 5-2, "Hazard Perception."

YIELDING (GIVING UP) SPACE TO OTHERS

No two objects can be in the same space at the same time. To keep two cars from trying to be in the same space at the same time, there are traffic laws. This section will consider the laws dealing with space and how to follow them.

Who Must Yield Space



Traffic sign telling you to give up space to other drivers.

First of all, the law states only who must yield space or "right of way;" it does not give the right of way to anyone. Every driver on the road must be prepared to slow down or change direction to keep an accident from happening. However, each driver should know when he is expected to "yield" the right of way.

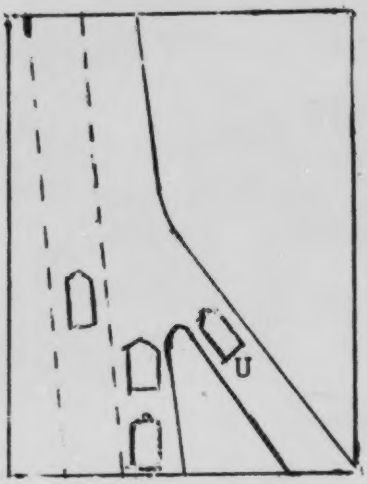
Intersections.

When two streets cross, there can be a possible disagreement or difference of opinion over space. Generally, there are traffic controls to tell who must yield the right of way.

- A red light means that you may not enter the intersection.
- A STOP sign or flashing red light means that you must come to a full stop, but may enter the intersection if there is enough space.
- A YIELD sign means that you may enter the intersection without stopping if there is enough space.

- A green light means that you can go when the way is clear--when others have yielded space to you. A green arrow allows you to turn in the direction of the arrow, if the way is clear.

Space in a Lane.



Except where traffic controls say differently, when you wish to enter a lane of traffic, you must yield space to the other drivers already in the lane.

You must yield space when:

- Entering the roadway from an entrance ramp.
- Entering a roadway from the roadside.
- Entering oncoming traffic lane to pass another car.
- Changing from one lane to another.
- Crossing a lane in order to turn.

Without these kinds of laws, traffic could not travel smoothly and therefore could not travel safely.

Space for Special Roadusers.

Different types of roadusers have different requirements for space. The law requires you to yield to the following roadusers:

- A car ahead. No matter how quickly or unexpectedly the car ahead of you stops, it is your job to avoid a collision. That's one of the reasons for having a 2-second following distance.
- Pedestrians. Pedestrians should obey traffic controls. However, they have little protection, and drivers must yield to them.
- School buses. When a school bus stops, children are likely to be nearby. Children require a lot of space. Therefore, in most States, drivers are required to STOP for a school bus which has its lights flashing and which is on the same road or at the same intersection you are, unless the car is separated from the school bus by a median divider. You are not allowed to proceed until the bus driver has turned off the warning flashers or started up the bus again.

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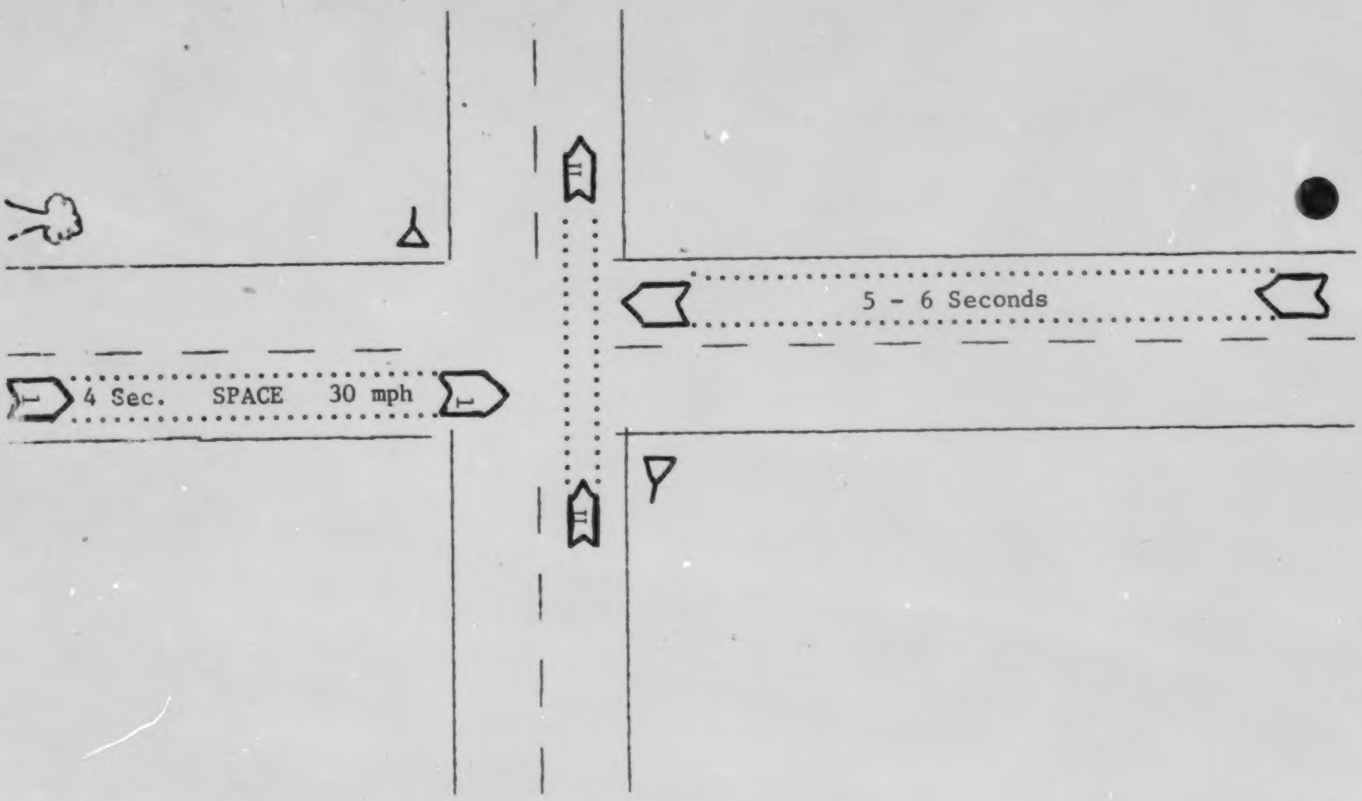
ANSWER TO DRAWING #1, LAP 3-4 EXERCISE: You should check for traffic behind you, signal, and move into the left lane. This will give car #1 a clear lane to pull into.

- Emergency vehicles. Police cars, ambulances, fire engines, and other emergency vehicles require a lot of room to maneuver. In the presence of an emergency vehicle you are required to leave the road (to the right if possible), and come to a stop.

HOW MUCH SPACE YOU NEED

Now that you know when you must give up space, the next thing to think about is how much space you need. The amount you need depends upon what you plan to do:

1. Do you plan to cross the flow of traffic--for example, at an intersection?
2. Do you plan to drive with the flow of traffic--such as entering traffic from an entrance ramp to a freeway?
3. Do you plan to drive against the flow of traffic--such as when you pass the car ahead of you?



1. Crossing traffic

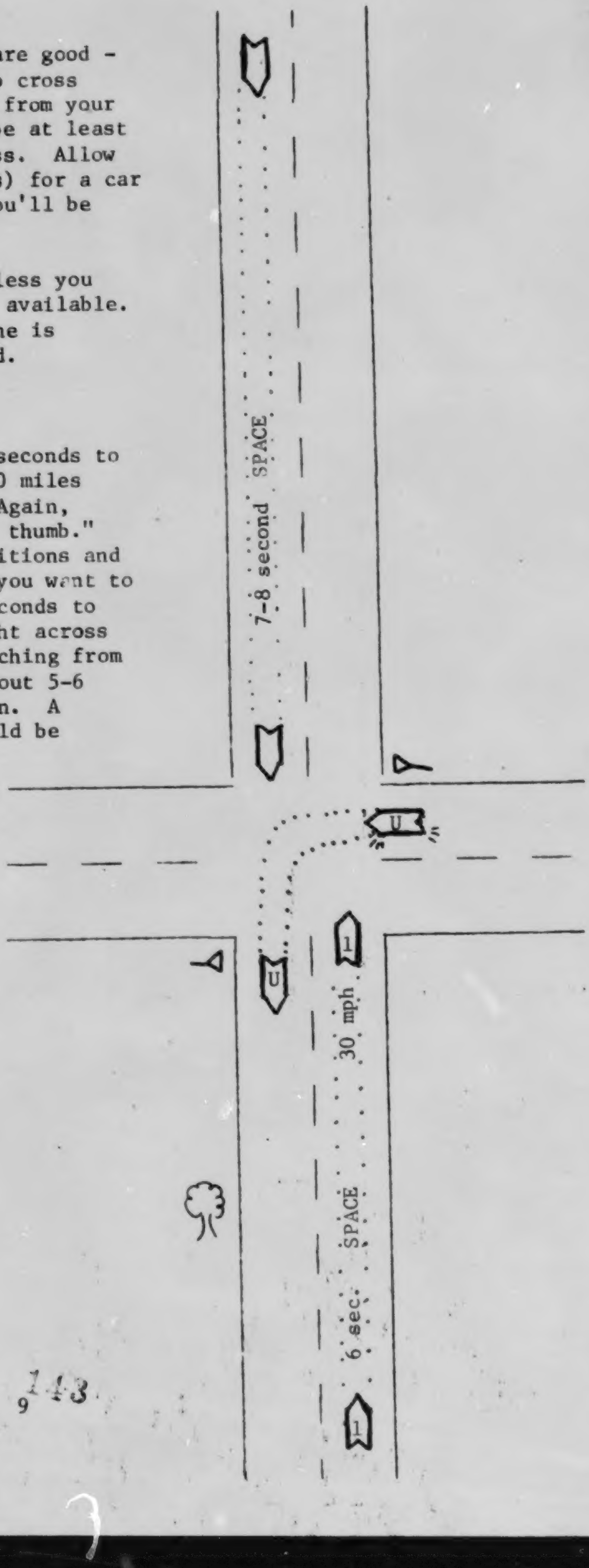
Crossing the flow of traffic is the simplest case. It will generally take about 4 seconds to cross a two-lane roadway from a stopped position. (The 4-second time frame can vary, depending on the capability of your car, road type and condition, etc. If it's raining, for example, it might take you longer to cross the intersection.)

So, if road and car conditions are good - it should take you about 4 seconds to cross the intersection. A car approaching from your left (see diagram on page 8) should be at least 4 seconds away when you start to cross. Allow a little more time (about 5-6 seconds) for a car approaching from your right, since you'll be crossing his path of travel last.

Remember not to start across unless you are sure you can make it in the time available. For example, do not start if your lane is blocked on the other side of the road.

2. Entering traffic

It will generally take about 6 seconds to reach a normal city speed of about 30 miles an hour from a standing position. (Again, this "6 seconds" is just a "rule of thumb." It can vary with different road conditions and car capabilities.) Now - let's say you want to turn left. It will take you more seconds to turn left than it does to go straight across an intersection. So, the car approaching from your left (see diagram) should be about 5-6 seconds away when you begin your turn. A car approaching from your right should be about 7-8 seconds away from the intersection. This will give you time to turn and to get up to the speed of the traffic in the lane into which you're turning. If you want to turn right, a car coming from your left should be at least 6-7 seconds away from the intersection when you begin your turn. This will give you the time and space needed to turn and build up your speed.



Estimating Space

How do you know whether a gap in traffic is 4 seconds, 6 seconds, or 8 seconds? It takes lots of practice.

During Unit 5 classroom sessions, you'll get some practice in using seconds to estimate how much space, time, and distance you need in different driving situations. You should begin practicing now, since it will take some time before you'll be good at it. Practice when you're riding with your parents or a friend, or when you're an observer in the driver education car.

To practice estimating gaps at intersections, just stop at an intersection, either in a car or on foot (if you're in a car, pull to the side of the road so that you do not block traffic). As you see a car approach from the left, wait until the last second at which you think you would be able to safely pull out in front of the car. Then, if you're planning a right turn, start counting "1 one-thousand, 2 one-thousand," and so on. If the car reaches you before you count "7 one-thousand," you didn't allow enough space.

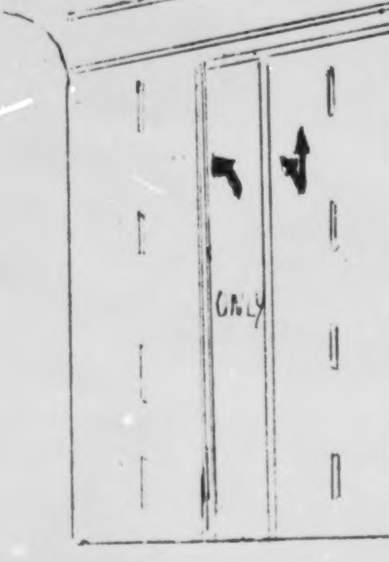
You can also estimate passing distance. When you're driving or riding with someone else, wait until you see another car coming (or curve or hill or intersection). At the last moment that you could safely pass a car ahead (assume there is a car ahead if you have to), start counting "1 one-thousand, 2 one-thousand," and so on. If the other car reaches you before you get to "9 one-thousand" you didn't leave enough passing distance.

Limiting Space Requirements

There are a number of things you can do to limit the amount of space that you need in order to enter traffic. Here are a few of them:

Start a turn from the correct lane.

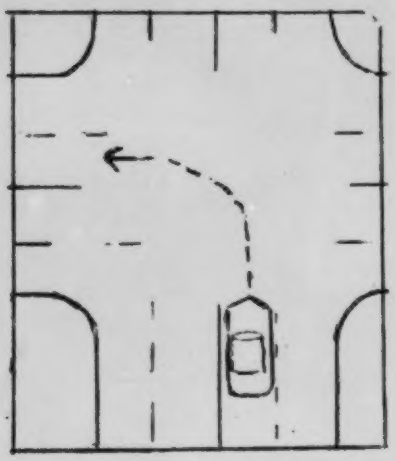
The closer you are to the direction you want to turn, the more quickly you can complete your turn. Start a right turn from the right lane, and a left turn from the left lane. In most places this is also the law. At many intersections you will find signs or pavement markings telling you the lane you must be in if you wish to make a turn.



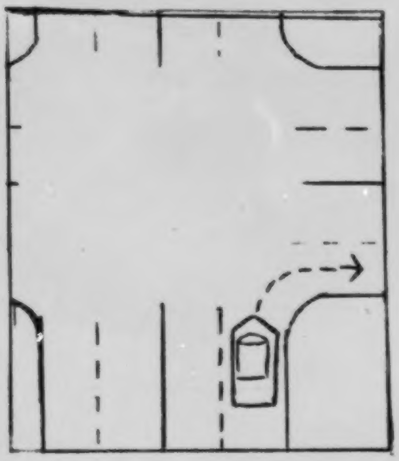
Be in a position to turn.

If you are turning left, pull into the intersection far enough so that you will be in a position to complete the turn quickly when a gap appears. Stop soon enough to allow oncoming traffic to turn left in front of you. Also, keep your wheels straight while you're waiting so that if a car hits you from behind it will not push you into oncoming traffic.

Enter the nearest lane.



If you are turning left, enter the left lane of the street you are entering.



If you are turning right, enter the right lane of the street you are entering.

After you have completed your turn, you can change into the lane that is best for whatever you plan to do next.

One gap at a time.

If you have to change several lanes, do it in steps. Make one lane change, OBSERVE and COMMUNICATE, and then make the next lane change. It's especially important to make lane changes in steps if traffic is heavy. If there is no traffic, you can move across a couple lanes in one step.

If you have to cross several lanes of traffic at an intersection and there is a median large enough to hold your car, make the crossing in two steps. (Cross the first lanes to the median; wait in the median until the second group of lanes is clear, then complete the crossing.) Crossing lanes of traffic in stages allows you to use two or more small gaps rather than one large one.

GIVING SPACE AS A COURTESY

There are times when it's a good idea to yield space to other drivers even though they are required by law to yield to you. Most common examples are:

- Slowing up to allow a car to turn left across your path. (Be sure to check rearview mirrors first.)
- Changing lanes to allow a car to enter from an entrance ramp or from the roadside.
- Slowing down to allow another driver to complete a pass quickly--or speeding up to allow him to drop back behind you.

These "courtesies" will often help another driver along without any great inconvenience to you. They may also prevent an accident if the other driver doesn't see you or if he faces an emergency.

If you have decided to extend a courtesy to another driver, make sure he knows about it. If you are going to allow him to enter your lane, do so by changing lanes (if you can) rather than changing speed. Speed changes are harder to detect. If you are going to let him cross in front of you at an intersection, signal with a wave of your hand.

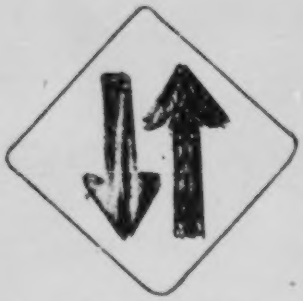
While courtesy is important, it can be overdone. Be careful that your courteous action does not create a hazard for someone else. Stopping suddenly in heavy traffic to allow another car to cross your path may catch drivers behind you by surprise and cause an accident.

OTHER RULES OF POSITIONING

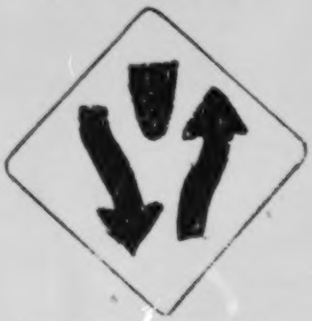
The most important principles in positioning your car are:

1. Leaving a space cushion around yourself, and
2. Yielding to the space requirements of others.

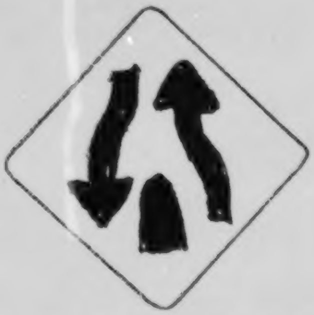
You will find other rules of positioning in traffic signs and pavement markings. Most of these signs and markings are easy to understand. However, some of the signs have special codes that you will have to learn. Below are some of the most important of these codes.



TWO-WAY TRAFFIC

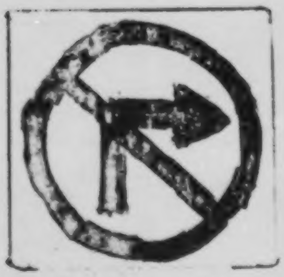


DIVIDED HIGHWAY

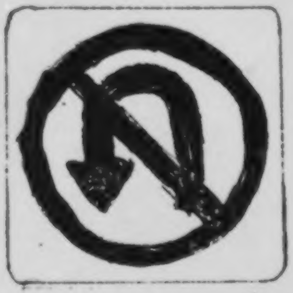


DIVIDED HIGHWAY ENDS

(All of these symbols are black on a yellow background.)

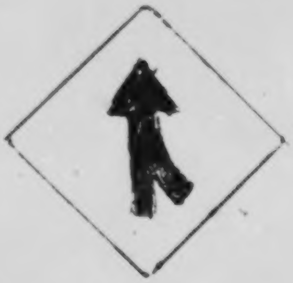


NO RIGHT TURN



NO U-TURN

(Each of above has black arrow, red circle with red slash, and white background.)



MERGE
(Black on yellow)

POSITIONING

REVIEW REVIEW REVIEW REVIEW

A. Amount of space you need:

- 2 seconds when following another car,
- 4 seconds when crossing the flow of traffic.
- 6 seconds when entering traffic from a stopped position.
- 9 seconds when passing another car.

Remember-the amount of space you need will vary with the capabilities of your car, road type, road conditions, etc.

B. Give up space:

- To cars at intersections when traffic controls tell you to yield.
- To cars from the right at uncontrolled intersections.
- To cars already in a lane of travel.
- To the car ahead.
- To pedestrians.
- To school buses.
- To emergency vehicles.

C. Limit your space requirements in a turn:

- By getting in the lane nearest to the direction you want to go.
- By entering the lane nearest the direction you came from.
- By moving to the center of an intersection to wait for a left turn (with your wheels straight ahead).

D. Give space as a courtesy:

- When a driver ahead wants to turn left across your path (if there is not a lot of traffic behind you).
- When a car wants to enter your lane from an entrance or exit to an expressway.
- When a passing car is forced to return to the driving lane.

CHECK POINT: TEST OUT YOUR UNDERSTANDING

When you think you understand the information contained in this LAP, answer the questions below. After you've answered them, turn the page for the correct answers.

1. A flashing red light means the same thing as a:

   a. Red light.

   b. Yellow light.

   c. Stop sign.

   d. Yield sign.

2. You are stopped at a stop sign. You plan to make a right-hand turn but see a car coming from your left. How far away must this car be in order for you to make a right turn safely? Traffic is moving at about 30

   a. About 2 to 4 seconds.

   b. About 6 to 7 seconds.

   c. About 8 to 9 seconds.

   d. About 10 seconds.

3. A school bus has stopped on the other side of a divided highway. What should you do?

   a. Keep going but watch out for children.

   b. Stop and look for any children.

   c. Stop and wait until the bus starts again before going on.

   d. Stop and wait for the bus's warning light to go out.

4. As you approach an uncontrolled intersection, you see a car also approaching the intersection from your left. You should:

   a. Keep going since you have the right of way.

   b. Sound your horn to warn the other driver you have the right of way.

   c. Slow down and be prepared to stop, if necessary, to avoid the other driver.

   d. Stop and yield the right of way to the other driver.

ANSWERS TO CHECK POINT TEST

1. The correct answer is "c"--stop sign. A flashing red light means you must come to a full stop and yield space to any cars on the cross street. A stop sign means the same thing.

2. The correct answer is "c"--about 6 to 7 seconds. You need a 6 to 7-second gap in order to enter traffic from a stopped position and to get up to the speed of traffic.

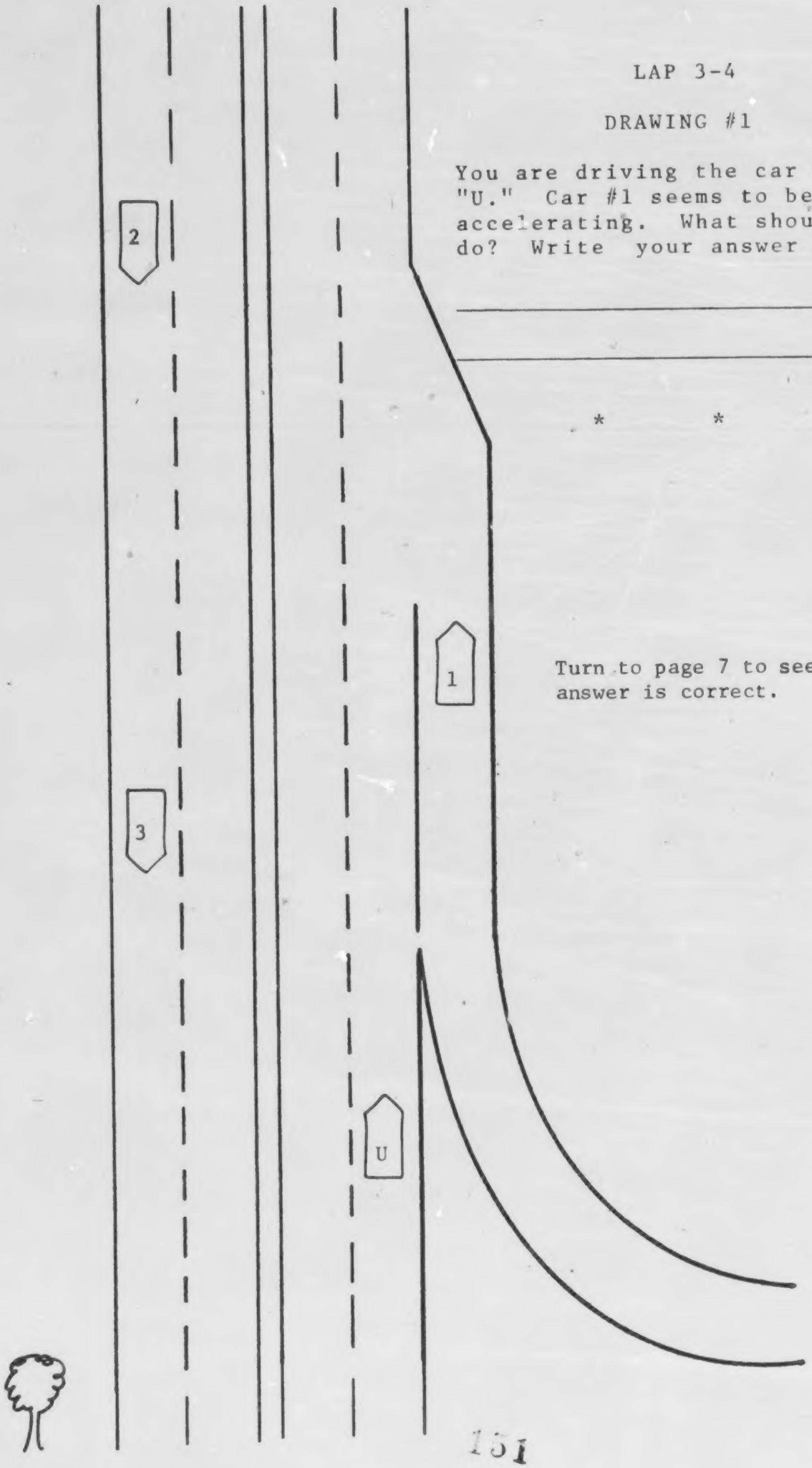
3. The correct answer is "a"--keep going but watch out for children. In most states you are allowed to continue if there is a median between you and a school bus. Otherwise, you would be required to stop and wait until the bus had turned off its warning lights and started up again. The important thing, of course, is to keep an eye out for children.

4. The answer is "c"--slow down and be prepared to stop, if necessary, to avoid the other driver. It's your responsibility to do whatever is necessary to avoid an accident. You never "have" the right of way. The driver from the left is supposed to yield space to you, but it is always possible that he won't see you.

end

Things to Do On Your Own
or in
Guided Learning

If you're having problems with:	You can:
LAP 3-1 Recognizing traffic signs, signals, roadway markings...	Work in pairs or small groups and use flashcards on "signs, signals and markings," or look at slides on signs.
LAPS 3-1, 3-2, 3-3, and 3-4 Traffic--at intersections, on and off ramps, lane use...	Your instructor might show film (16mm) from the simulator lab for this unit.
LAPS 3-1, 3-2, 3-3, and 3-4 Observing, communicating, adjusting speed, positioning...	Watch one or two of these filmstrips. Pick the ones you think will help you the most: "Interacting with Traffic" "Safe Highway Driving" "Road Check" "Special Driving Techniques" "Separating & Compromising Risks" Pair up or work in small groups and look at slides used in class for this unit. Talk about all 4 principles --observing, communicating, adjusting speed, and positioning--for each slide. Do exercises at the end of your Unit 3 LAPS, or work in a small group and make up your own driving situations.
Procedures for passing...	Watch these (Ford) filmstrips and listen to the records that go with them: "The Basic Passing Maneuver" "Being Passed"
What to look for and what to do at intersections...	Watch (Ford) filmstrip, "Intersection Maneuvers" and listen to record.
Adjusting speed and positioning the car in traffic...	Look at (Ford) filmstrip, "Adjusting to the Changing Scene," and listen to the record that goes with it.



LAP 3-4

DRAWING #1

You are driving the car marked "U." Car #1 seems to be accelerating. What should you do? Write your answer here:

____

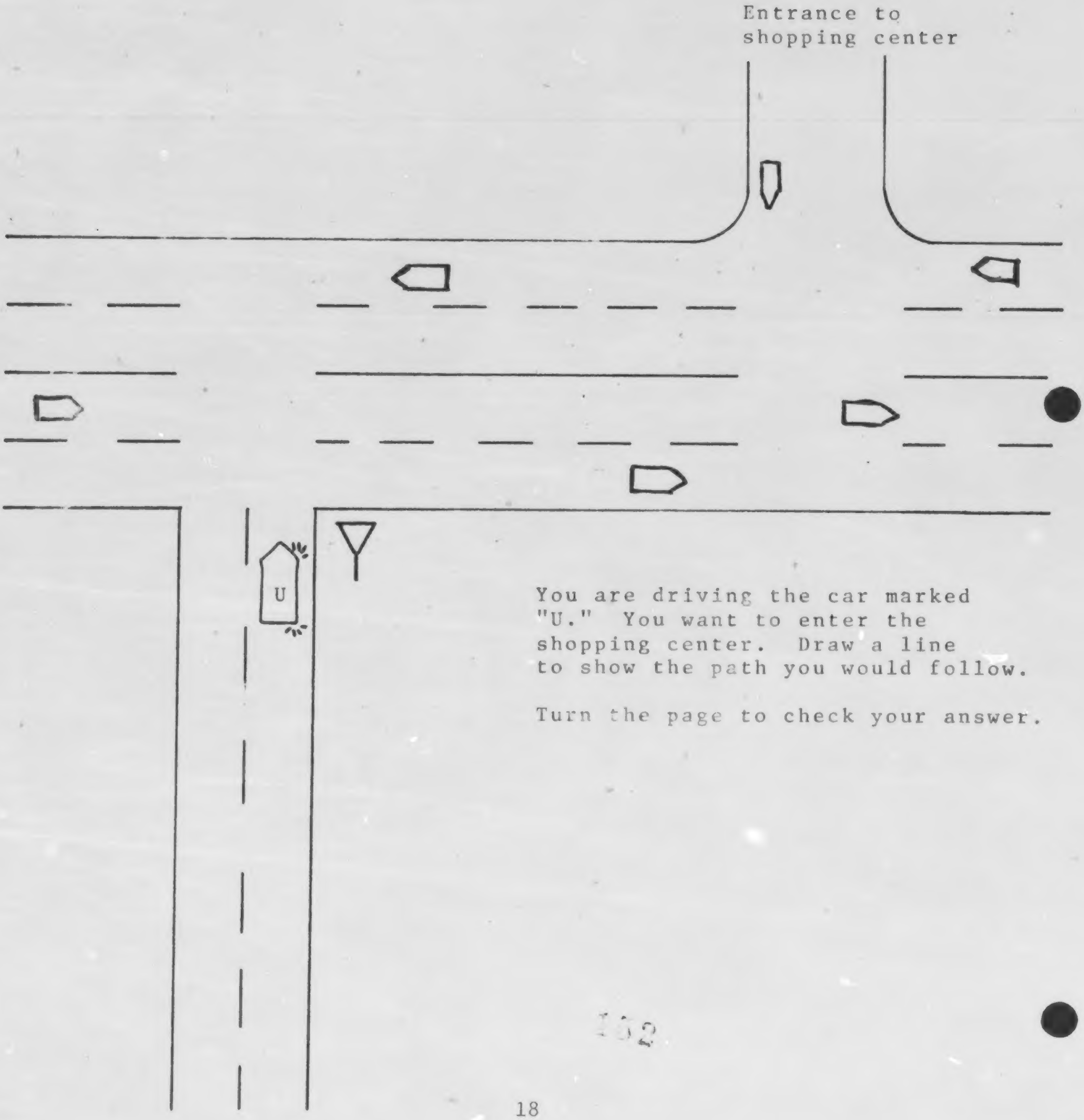
____

* * *

Turn to page 7 to see if your answer is correct.

LAP 3-4

DRAWING #2

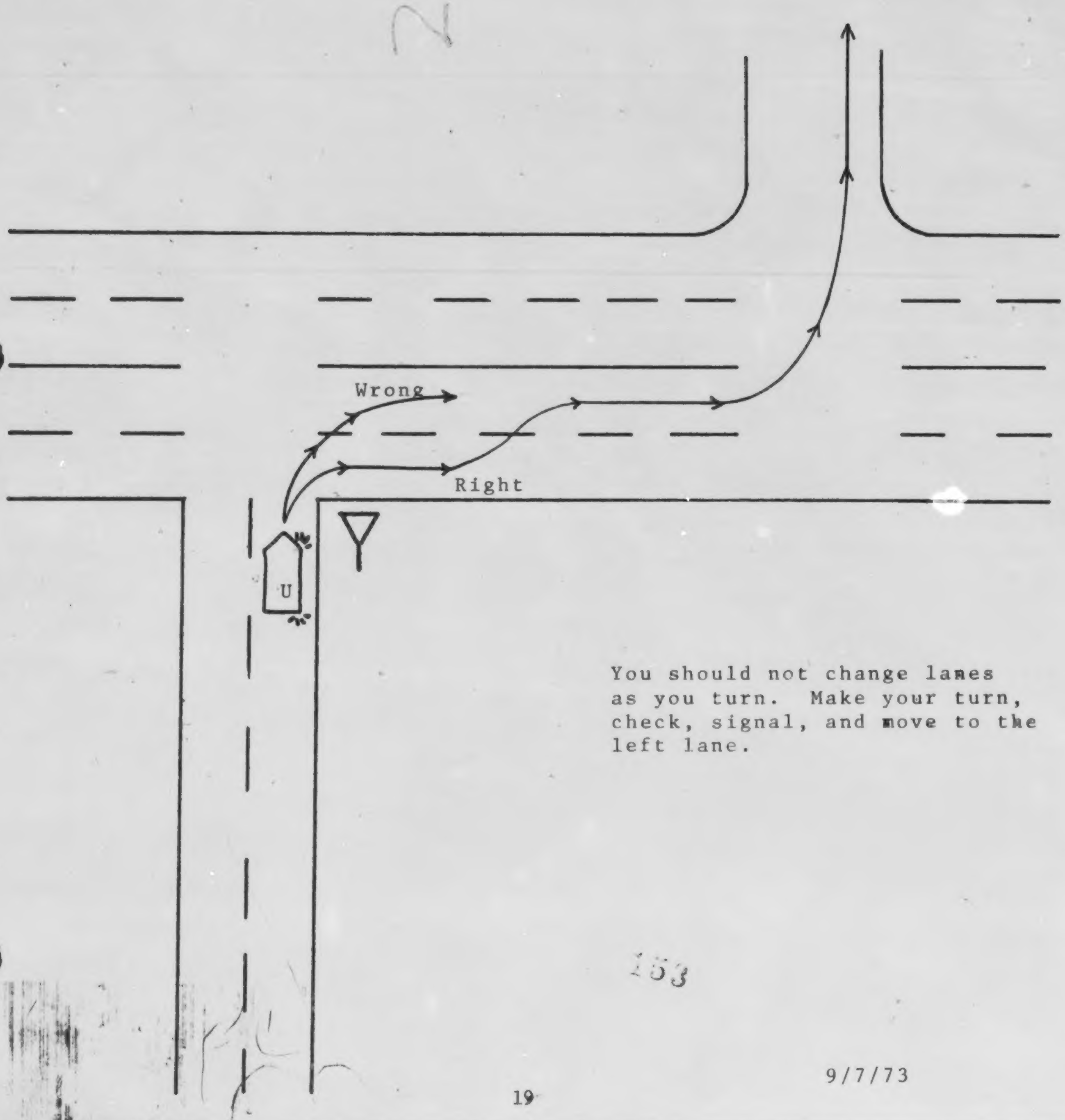

Entrance to
shopping center
U

You are driving the car marked "U." You want to enter the shopping center. Draw a line to show the path you would follow.

Turn the page to check your answer.

LAP 3-4

ANSWER TO
DRAWING #2



You should not change lanes as you turn. Make your turn, check, signal, and move to the left lane.

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UNIT 4: ENVIRONMENTAL FACTORS

LAP 4-1 Limited Traction
LAP 4-2 Limited Visibility
LAP 4-3 Night Driving
LAP 4-4 Car/Driver Stressors

LEARNING ACTIVITIES PACKAGE 4-1

LIMITED TRACTION

SAFE DRIVER COURSE

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WHAT HAPPENS IN THIS LAP

In this LAP you will learn about limited traction. Traction is the grip your tires have on the road. Limited or poor traction is caused by rain, snow, ice, mud, sand, oil, or smooth tires--anything that prevents your tires from holding onto the road surface. When your tires don't grip the roadway well enough, you have trouble steering, stopping, speeding up or parking. In this LAP you will learn how to identify limited traction road conditions and how to avoid conditions that limit traction.

You can't always avoid a slippery road! So, you will learn a new set of steps in starting, stopping and steering. Learn these steps so that you can do them automatically. You don't have time to think of ordinary driving tasks when you are sliding on the ice.

A lot of the information you need to know to handle your car in emergency situation is found in this LAP. Be sure you read the material before you come to class so you can spend in-class time applying the information you learn here.

WHY STUDY THIS LAP

This LAP covers the procedures you need to know to drive a car in limited traction conditions. All the basic steps you learned in Unit 3 are used. Plus--new tools are needed to drive safely in water and on ice, snow, and sand.

You should learn these new skills so well that you can "automatically" do them while your eyes and your hands are busy stopping your car on ice--or getting you out of a snowbank.

You have learned the basic skills of driving a car while the weather is "normal." Now you are ready to add to those skills new tools which will protect you, your car and people and property around you.

WHAT YOU NEED TO LEARN

1. How to Identify Limited Traction Conditions.
2. How to Stay Away from Limited Traction Conditions.

3. What to do on Roads with Limited Traction.

   a. How to accelerate, slow, and stop.
   b. How to improve traction on slippery roads.
   c. Improving your car's capability in snow and sand.
   d. Preops for driving on limited traction.
   e. What to do when you are "stuck."

4. Hydroplaning.

   a. What hydroplaning is.
   b. How to keep from hydroplaning.
   c. What to do to get your traction back when you hydroplane.

LIMITED TRACTION

Nearly one-third of all accidents happen on wet, icy, or snowy roads. These roads have limited traction. Your tires can't grip the road. They slide on the slick road surface or slip from side to side. Your car does not have pulling power--you don't have control under these conditions. In this module you wi-l learn the safest way to prevent accidents is to avoid areas in the roadway where traction will be poor. You will also learn how to drive safely on these roads.

Avoiding Problem Areas

FIRST....

HOW TO AVOID PROBLEM AREAS

1. Avoid all oil-soaked areas.
2. Steer the car around deep water.
3. Follow the tracks of others.
4. When snow or ice is melting, avoid passing lane or little-used lanes.
5. Don't pass unnecessarily.
6. Avoid snow or sand drifts and wet leaves.
7. Avoid slippery areas in stopping or parking.

1. Avoid oil-soaked areas.

Shiny surfaces of fresh oil--either from spillovers or new road construction are very slippery. Steer away from a shiny area of oil.

In hot weather, oil comes to the surface and may look like a shiny, wet spot. Steer around it if you can. It will be very slippery.

2. Avoid deep water.

Water that covers the road might be one inch or one foot deep. You can't tell how deep it is until you hit it--them it's too late. Steer around it. Deep water may make you lose control, stall the engine or wet the brakes so that they fail to work.

3. Follow tracks of others.

If you can see tracks left by other vehicles, follow them. They will give you better contact with the road surface.

4. In melting ice, avoid lanes of little traffic.

Avoid using passing lanes or lanes that don't get very much traffic. Lanes that have the most traffic are the safest because traffic melts ice or snow. On a little-used lane, there may be slick spots.

Look also for spots of ice in the shade of trees or buildings. They will melt more slowly and freeze faster.

Use extra care when approaching a bridge or overpass. They freeze first, dry out last. Avoid passing or sudden moves on these high-risk areas.

5. Don't pass unless necessary.

Lane-changing is rarely a good idea on slippery roads. On roads where you may have spots of snow or ice, don't ask for more trouble. Wait until you can see the road surface clearly before you pass.

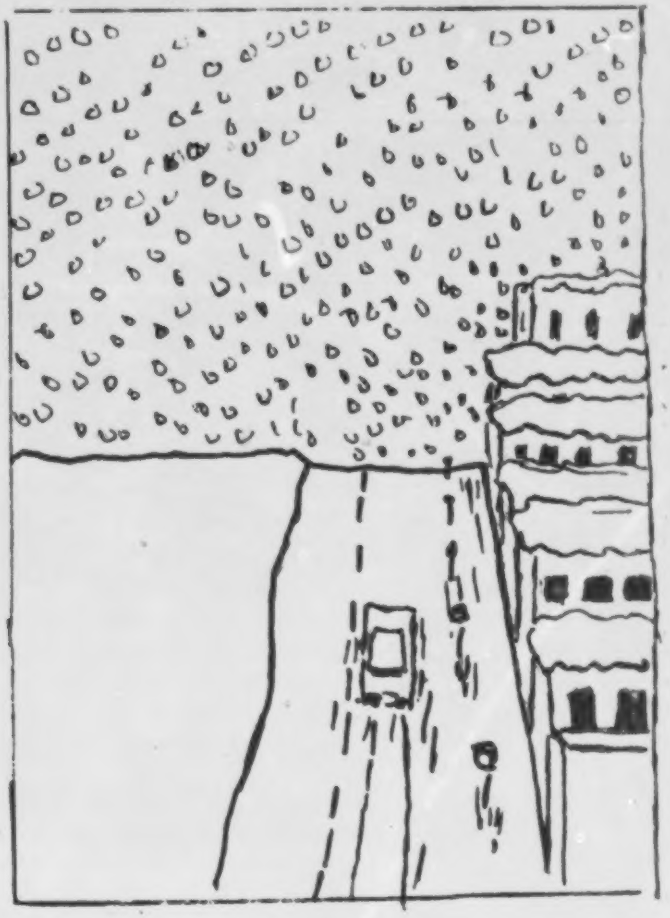
6. Avoid snow or sand drifts, piles of wet leaves.

Steer around sand and snow drifts, mud or wet leaves. Wet leaves are as slippery as glare ice. You will have almost no control or stopping ability if you try to stop on wet leaves.

If you must stop, look for a bare spot in the road, free of ice or snow. If there are no dry spots, dry, loose snow is second best. Try not to stop on traffic-packed snow. It will be polished slick. Starting and stopping will be extra difficult.

Don't stop or park on an uphill grade. Stop earlier or continue to the top of the hill. Your tires can't get a starting grip on a snowy or icy hill.

Instead, select a parking space on a downhill grade. You will be able to get moving again more easily and have better control of the car.



Avoid parking in an uphill parking space. When the road is snowy or icy you'll have trouble getting traction to get out of the parking space and up the hill.

Starting on Slippery Roads

NOW....

You can't always avoid icy, snowy, or muddy roads when you drive. These roads require new skills in starting, steering, stopping, and parking.

STARTING THE CAR ON SLIPPERY ROADS

1. Straighten the front wheels.
2. Put the gearshift lever in Drive.
3. Press the accelerator gently.
4. Hold the accelerator steady in starting.
5. On ice or packed snow, place sand, cinders, etc., in front of rear wheels.
6. START S-L-O-W-L-Y.

1. Straighten the front wheels.

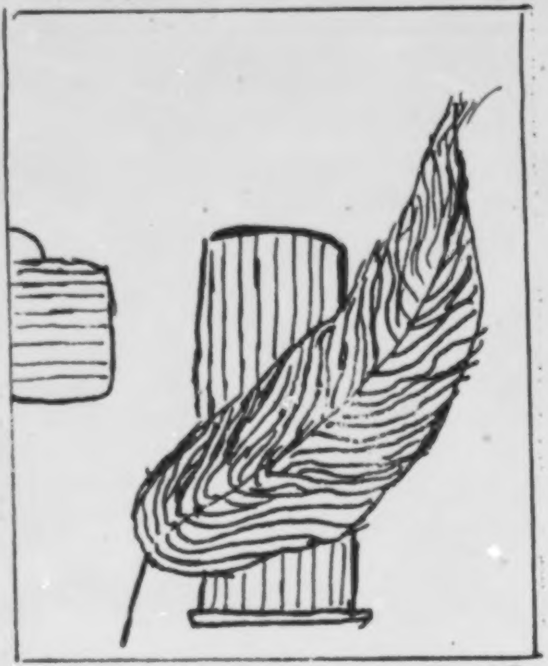
Straighten the wheels before you start....keeping the front end straight reduces the car's resistance to motion. Wheels will not spin as easily. Also, the front wheels will make a path for the rear wheels.

2. Put gearshift in Drive.

You want to avoid a sudden move on icy surfaces, so put the car in Drive now. (Apply the brake when changing gears.)

3. Press the accelerator gently.

Start with a feather touch. Don't spin the wheels. Give the car just enough gas. Remember, easy does it.



A "feather" touch on accelerator will keep wheels from spinning.

4. Hold the accelerator steady; start slowly.

To drive on a slippery surface, you should try to avoid sudden moves. Gently accelerate as smoothly as you can. Sometimes, "pumping" the accelerator helps. The chances of skidding are greatest when you stop, change speed or change direction.

Heavy traffic will tend to "polish" ice on the roadway making the ice warmer. Ice is twice as slick at 30° as at 0° because the increase in temperature causes the top layer of ice to melt, making it slicker. Be especially careful during near-freezing temperatures.

5. Place sand, cinders, mats or newspapers in front and back of rear wheels.

By placing sand, cinders, or mats in front and back of rear wheels, you can give the tires something to grip. This is especially important on glare ice or hard-packed snow.

Moving on Slippery Surfaces

MOVING ON SLIPPERY SURFACES

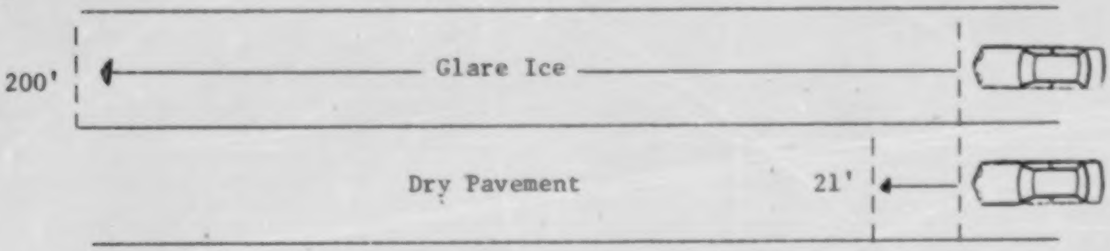
1. Drive more slowly, increasing the "cushion of space" around your car.
2. Keep acceleration smooth--the feather touch.
3. Approach curves and intersections slowly.
4. Keep steady pressure on the accelerator on an upgrade.
5. If you must go over patches of glare ice, wet leaves, or oil--keep speed and direction steady.

1. Drive more slowly; increase the "cushion of space" around the car.

You need a larger "cushion of space" around your car on slippery pavement because you need more room to stop. For example, at 20 miles per hour on dry pavement, it takes about 21 feet to stop; but on glare ice at 20 miles per hour, it will take you almost 200 feet to stop the car. (These figures don't include your "reaction time," i.e., the time it takes you to apply the brake--usually 3/4 of a second. That will add another 22 feet in both cases.)

In LAP 3-1, we talked about keeping a two-second following distance. That was for normal driving on dry pavement. But let's say it's raining. To be safe, double the two-second distance. On snow, double it again--that is, keep an 8-second following distance. And for ice, where you'll need the longest braking distance, double it again--to a 16-second following distance.

BRAKING DISTANCE



2. Accelerate with a feather touch.

The feather touch will keep you in control. As in starting, avoid any sudden changes in steering or acceleration.

3. Approach curves and intersections slowly.

Intersections are especially dangerous for two reasons: (1) You may meet other drivers who are having trouble controlling their vehicles on slippery roads; and (2) The traffic may have packed and polished the snow or ice so that it is like glass.

4. Keep steady pressure on the accelerator on an upgrade.

Going uphill means you must keep enough forward motion to reach the top of the hill. Don't let the car slowly stop. Don't suddenly accelerate. Just apply steady, even pressure with enough gas to reach the top of the hill, and to allow you to keep control.

5. On patches of ice, oil, or wet leaves, keep speed and direction steady.

Wet leaves may be as slippery as glare ice. When you must go over ice, oil, or wet leaves, keep your speed and steering steady. Don't change direction or brake!

Slow speed on slippery roads is important, even if the surfaces have been salted or sanded. (Sand and salt cut down on slipperyness and give you better traction.) Even if the streets you are driving on are salted, follow the guidelines above. The next intersection might not be treated. Also, remember that side streets are usually treated later than main streets.

For moving on snow, rain, oil, or even rain-slick streets----

EASY DOES IT!!

1. Reduce speed.
2. Increase distance from other vehicles.
3. Perform all moves with a gentle, steady touch.

Slowing Down and Stopping on Slippery Surfaces

SLOWING AND STOPPING ON SLIPPERY SURFACES

1. Slow more gradually--especially for ice patches, wet leaves, intersections, curves.
2. Shift to lower gear before starting down a steep hill.
3. Watch for oil or grease on the road. Slow for these before you reach them.
4. To stop, look for bare spot; for emergency stop, drive into snow bank.
5. Pump brakes to give softest, quickest stop.

1. Slow more gradually.

Allow for more distance so that you can gradually come to a stop. Watch for icy patches, wet leaves, bridges or curves. They will require more slowing time--more gradual motion to avoid skidding.

2. Shift to lower gear.

Before going down a steep hill, shift to a LOW gear. This is called downshifting. When you downshift, the engine acts like a brake and slows down the car so you don't have to use the foot brake so much. When braking going downhill, it is very easy to make the car skid. Avoid this danger by downshifting in advance, that is, at the top of the hill. Downshifting while in motion can also throw a car into a skid on a slippery surface.

3. Watch for oil or grease or water on ice.

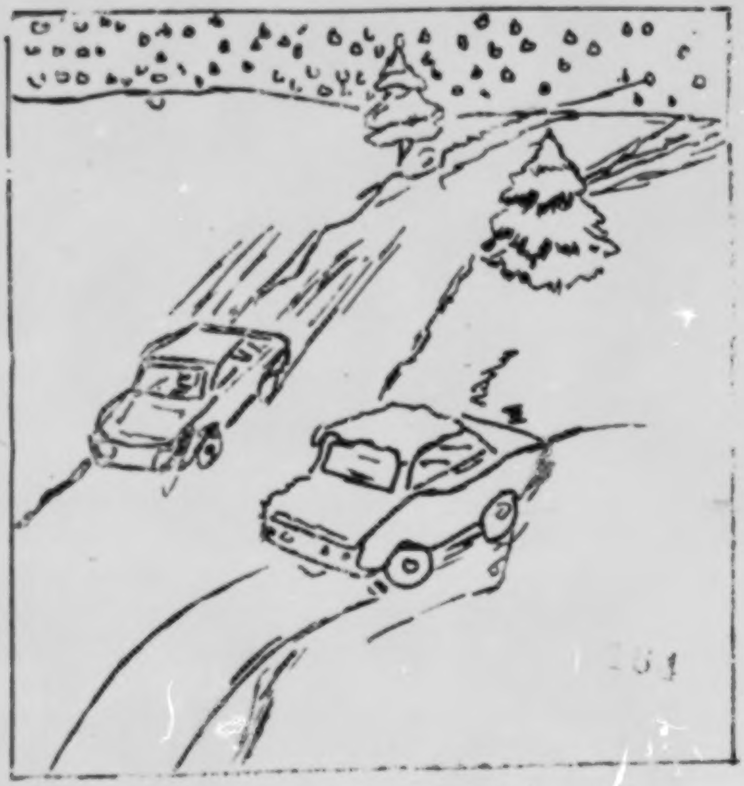
Be watchful for spots of oil or grease. Try to steer around them. If you can't, keep your speed and direction constant as you go over them.

A special problem is water on ice. It increases your chances of skidding. Avoid sudden moves. If you can't steer around the bad area, carefully go over it, using gentle, steady speed and direction.

4. To stop, look for bare spot.

Search for a safe spot to stop in advance. Remember--don't stop on an uphill incline if the road surface is slippery. If you're driving in snow, look for dry, loose snow or a bare spot to stop.

If an emergency stop is needed, don't slam on the brakes. You'll just slide over the slippery road, and your car will be out of control. If you're driving in snow and you don't see a safe place to stop, slow down by pumping the brakes, and drive into a snow bank. It will cushion your stop and cause the least danger and damage to your car and others.

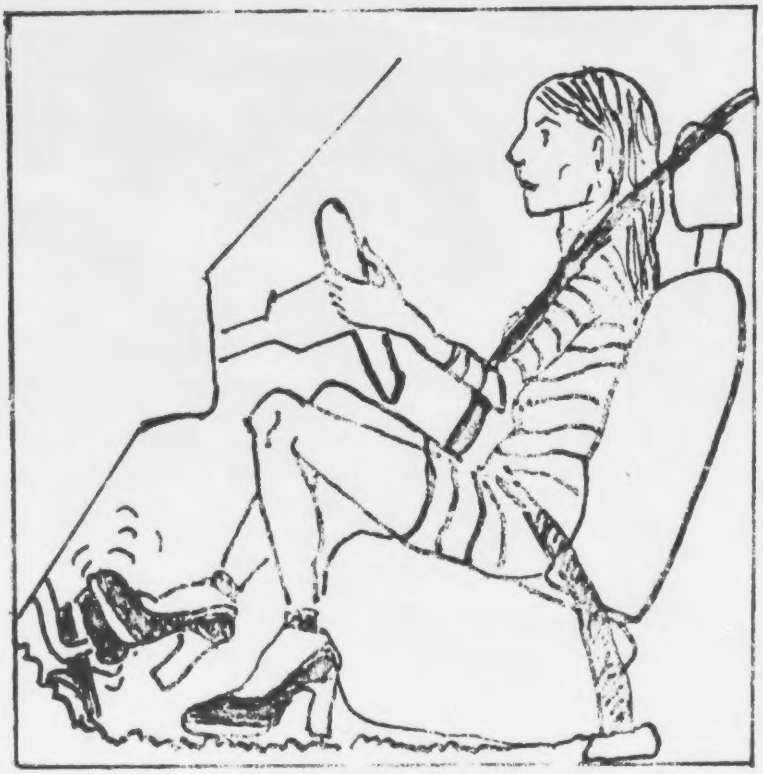


In an emergency, it's better to drive into a snow bank than to risk hitting a hard, heavy object--like another vehicle.

5. Pump brakes for safest stop.

With limited traction, different braking habits are needed. The quickest stop that still keeps steering control is PUMPING THE BRAKES! A quick hard pump on the brakes, then release and steer, then another pump on the brake, release again should be used. Braking too hard will lock your brakes and the wheels will not turn. And when the wheels are not turning, you cannot steer.

Steer the car when your foot is OFF THE BRAKE. Keep a firm grip on the steering wheel for control. Remember--steer-brake-steer-brake-steer-brake is the recipe from experts for the fastest, safest stop on slippery surfaces.



Pumping the brakes gives you the quickest stop and helps you keep steering control.

In order to use the "steer-brake-steer" technique, you'll need plenty of stopping distance. So, remember to look in advance for a safe place to stop. Then, begin braking early to come to a safe, smooth stop.

Special Turning Problems

Every move you make on slippery road surfaces should be slower, more gradual than on dry pavement. Avoid sharp sudden turns, sharp braking, sudden downshifting. A gradual, gentle turn gives you added control. The car is likely to skid in a turn if you turn too sharply or brake while turning.

Again--easy does it!

To Get Better Traction

1. Use snow tires or chains.

2. Put extra weight on rear wheels.

1. Snow tires and chains.

Many states have restrictions on snow tires, studded tires and chains. Consult your local regulations before deciding which to buy for your car.

During winter driving when an "emergency" is declared by the local authorities, chains or snow tires may be required for driving. Sometimes, certain streets are selected as snow routes. These streets are cleared first, and are designed to handle heavy traffic during a snow storm.

In LAP 8-2, page 5, detailed information is given on different types of tires. The regulations for using studded snow tires are different in each state. In many states there are certain parts of the year when you may use them. Other states won't let you use them at all.

For trips in winter, find out the regulations for the states you plan to drive through. If a state forbids studded tires, this includes travelers who are driving through the state.

Snow tires, as their name says, are good for snow. But on ice or hard-packed snow, they are not much better than regular tires. They are better than regular tires in loose snow and mud. This does not mean that you can take less care or go faster when driving on slippery roads if you have snow tires in your car.

Studded tires (tires with "teeth" imbedded in the tread) improve stopping and starting on ice and hard-packed snow. However, don't get over-confident when turning corners, because they don't provide complete protection, especially when used on the rear wheels only. You will still need up to ten times more distance to stop than on dry pavement.

Tire chains provide the best traction in ice or snow. They improve your stopping distance on ice 100 percent over regular tires. But chains require care.

1. Be sure chains are fitted snugly and firmly. Check them periodically for breaks.

2. Drive more slowly with chains on.

3. Remove chains when the road clears. They damage both the road and your car when used extensively on dry roads.

2. Extra Weight on Rear Wheels.

To improve pulling ability, put extra weight in front of the rear tires--in the trunk. If you have sand and a shovel in the car for emergencies, place them securely in the trunk area forward of the wheels.

Don't overload the car to improve traction. You will cause more harm than good. Also, be sure that any extra weight you place in the trunk is secure. Shifting weight would only cause the car to skid more easily.

DON'TS FOR DRIVING ON SLIPPERY ROADS

1. Don't overload the trunk to improve traction. You will damage the car more than you will improve traction.
2. Don't let air out of the tires to get better grip. This is a myth. It just wears out the tires.
3. Studded tires, snow tires and chains help, but they don't create dry pavement conditions. Don't throw away their advantages by driving too fast.

Driving in Deep Snow, Sand, or Mud

Before trying to start in deep snow, sand, or mud, make these checks. You'll start moving easier.

1. Remove snow packed around the tailpipe. Deadly carbon monoxide will be forced into your car if the exhaust is clogged by snow, sand, or mud.

2. Remove the snow or sand from behind and in front of each wheel. If you don't have a shovel, use the base plate of the jack.

3. A metal mat or carpet scrap may help you "climb out." Remember to go back to get the mats.

Getting Out of Snow, Sand, or Mud

STEPS IN GETTING OUT OF SNOW, SAND, OR MUD

1. Shift into LOW gear.
2. Accelerate gently--don't spin the sheels.
3. Keep the front of the car straight.
4. "Rock" the car to gain forward motion.

1. Shift into LOW gear.

Shift into low gear before you accelerate.

2. Accelerate gently and smoothly.

Steady motion does it. Don't spin your wheels. You'll dig yourself in deeper.

3. Keep the front of the car straight.

This will help keep the rear wheels from spinning. Once you start moving, you will make tracks with your front wheels that the rear wheels can follow.

4. "Rock" the car to gain forward motion.

Look in your owner's manual. Some car makers do not recommend rocking cars with automatic transmissions. Check first! If it's okay, do it this way.

Rock the car by alternating between LOW and REVERSE gears.

a. Try to get the car moving. Drive as far forward as you can.

b. Then, shift to reverse. Go as far as you can.

c. Your wheels are making a path, up to firm surface. Keep repeating this forward-reverse motion until you roll free.

If you are in deep mud or sand, you will need to put boards under your wheels to drive out. Sand won't pack enough and mud tends to make your wheels "dig in deeper."

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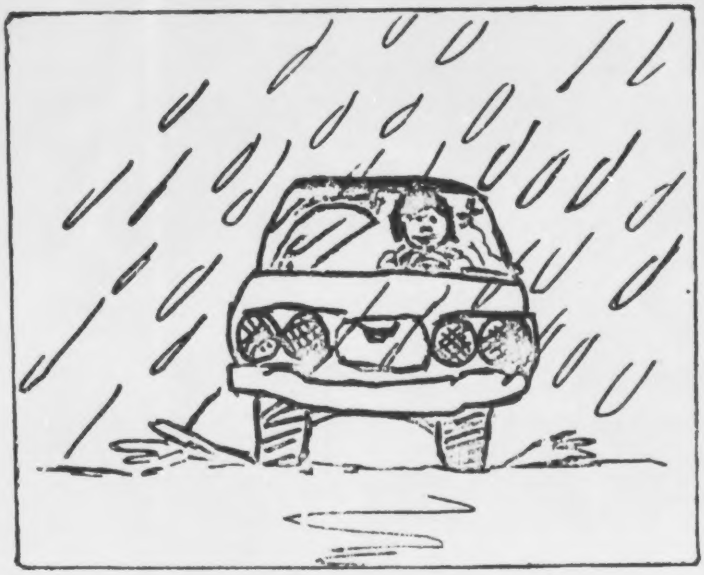
Driving in Water

If water on the road is deeper than the tread of the tire, a speeding tire may glide over the water--not touching the road surface. This water skiing by tires is called hydroplaning. When hydroplaning occurs there is loss of steering and braking control. This can happen with as little as 2/5 of an inch of water on the pavement.

Hydroplaning conditions may exist if you can see clear reflections on the pavement and on puddles of standing water. Another sign of hydroplaning conditions is if the car ahead leaves no tracks in the water. These signs tell you to slow down.



Driving at low speeds is the best way to keep the tires from hydroplaning.

Whether you hydroplane depends on a number of things:

1. How fast you're going. (Total hydroplaning usually does not occur at speeds under 50, although partial hydroplaning may occur at speeds as low as 25 miles per hour.
2. How deep the water is on the roadway. (The deeper the water, the greater the chance of hydroplaning.)
3. Tire tread (depth and design), pressure, and wheel alignment.

The best way to avoid hydroplaning is to drive slowly. If you see water on the roadway, try to steer around it. If that's not possible, drive slowly through the water. (If you hear a "slushing" sound from the tires, slow down--you're beginning to hydroplane.)

In addition, make sure your tires have good tread, and keep the recommended amount of air in your tires. Hydroplaning will occur if tires are not able to penetrate the water on the roadway and make contact with the road surface. Slick or smooth tires, therefore, will hydroplane more readily than tires with good tread.

Things to Do On Your Own or in Guided Learning

If you're having problems with:	You can:
LAP 4-1 **Responding to conditions of limited traction...**	**Watch film (16mm) "Winterproof Your Driving," and discuss with another student. This is a very short film, so you should have time in guided learning to do something else.**
LAP 4-1 Knowing what to do when your visibility is reduced while driving...	**Look at filmstrip "Good Driving in Bad Weather." Study carefully and try to answer the questions asked on the filmstrip as you watch it. Correct answers will be given.** **or** **Watch (Ford) filmstrip, "Emergency Problems," and listen to the record that goes with it.**

EXERCISE #1

INSTRUCTIONS: Assume that you're the driver of the cars in the following situations. Discuss the situations and then decide how you would respond. Try to remember all the driving tasks discussed in LAP 4-1, Limited Traction, and apply them to these situations.

SITUATION 1

You're parked in the street in front of your house and it's been snowing for quite a few hours. Snow has piled up around the wheels. What should you do before you get in the car? Why?

RESPONSE: SITUATION 1

I would: ______________________________

____

____

____

____

____

____

SITUATION 2

You're driving 45 mph in the city and you can see large puddles of water in the roadway ahead. What might happen? What steps should you take to prevent it from happening?

RESPONSE: SITUATION 2

______________ may occur. I would

____

____

____

____

____

____

SITUATION 3

You're stuck in deep snow. You've removed the snow from around the wheels and done all the proper things for trying to move the car. And it's still stuck. What should you be sure not to do? Why?

RESPONSE: SITUATION 3

I would not: ______________________________

____

____

____

____

____

____

SITUATION 4

It has been snowing for some time. You're driving in the country at 50 mph and as you round a curve in the roadway, you encounter a snow drift. It is not possible to steer around the drift. What procedures must you take to get the car through the drift?

RESPONSE: SITUATION 4

I must: ______________________________

SITUATION 5

It's cold and has been raining for some time. The roadway is really slick. There are lots of things to remember when accelerating on slippery surfaces. What are they and why should you perform these procedures?

RESPONSE: SITUATION 5

They are ______________________________

EXERCISE #2

Purpose:	This exercise is to help you practice deciding what to do in situations where you have limited traction.
Materials Needed:	Pen or pencil
Time Required:	About 5-15 minutes.
Instructions:	This is a matching exercise. In the left column are problems where there could be limited traction. In the right column are different actions you could take when you meet the problems. Read each problem (left column) and draw a line to the right action (right column). As an example, the answer has already been drawn in for number 8. When you've completed the exercise, turn to page 3 to check your answers.

SITUATIONS

You are driving a car and this happens:

1. You are at the bottom of a snow-covered hill and you see cars stopped upon the hill.
2. You notice wet leaves all across the street.
3. You see a snowdrift in your lane (divided highway).
4. You are following another car and the road begins to be icy.
5. You are starting up at a traffic signal. There is freezing rain.
6. You are approaching a long, snow-covered hill.
7. You are on a highway in the rain. Your car begins to hydroplane.
8. You are stuck in deep sand.
9. You are approaching a city intersection where you want to turn. It has just started to rain.
10. You are on packed snow and an accident happens just ahead.

ACTIONS

Draw a line to the actio
you should take:

Drive slower.

Start up slowly.

Speed up a little.

Stop the car.

Increase following distance.

Drive around it.

Pump brakes rapidly.

Turn more slowly.

Ease up on the accelerator.

Rock the car.

LEARNING ACTIVITIES PACKAGE 4-2

LIMITED VISIBILITY

SAFE DRIVER COURSE

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WHAT HAPPENS IN THIS LAP

In this LAP, Limited Visibility, you learn the conditions which limit your ability to see while driving, the conditions that can end in accidents, and what you can do to prevent accidents when your visibility is less than normal.

WHY STUDY THIS LAP

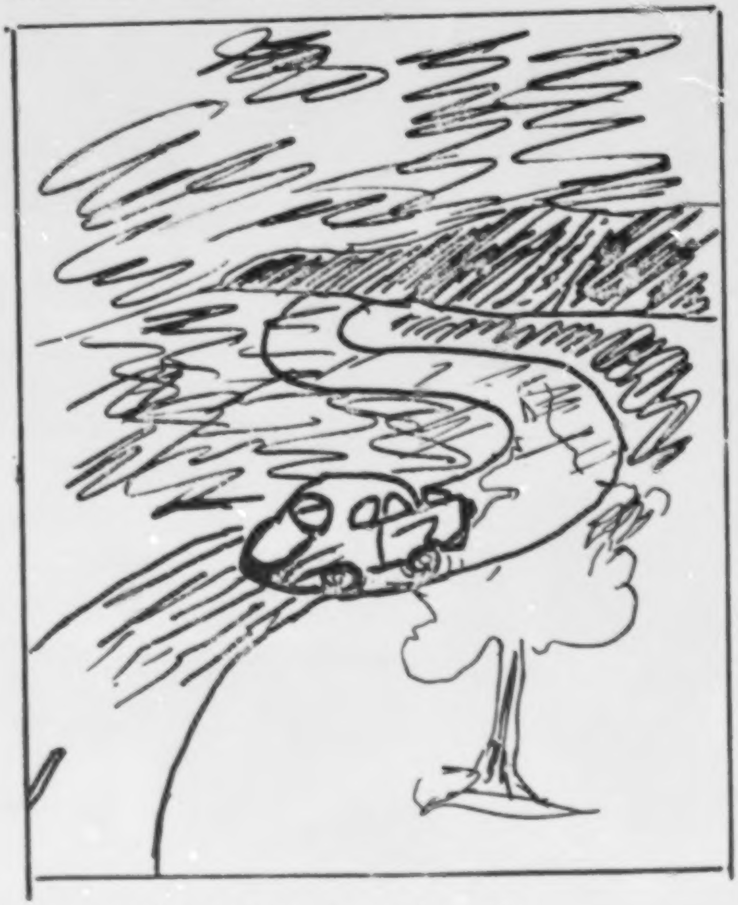
When you want to go someplace at a certain time, by car, you usually don't let storms, darkness, or bright sun stop you, even though these three conditions may cause trouble. To drive when things happen that make it harder for you to see, you need to know what to do to overcome these problems.

WHAT YOU NEED TO LEARN

1. What causes limited visibility.
2. How limited visibility effects your driving and the chance of an accident.
3. What you can do when faced with limited visibility.
    a. How you can improve your visibility.
    b. How you can cope with poor visibility.

LIMITED VISIBILITY

You're driving home with three friends from a football game in a neighboring town. The weather has turned cool and rainy. It was a good game; you won; and everybody is pretty excited and talking a lot--including you. So you aren't giving the road your complete attention. Suddenly you enter a thick patch of ground fog which has hidden a curve that banks rather sharply to the right. The next thing you know you're in the ditch on the other side of the road. Nobody hurt very bad--just scared. But, wow! -- the car!



This driver may miss the curve because bad weather limits his visibility and he is driving too fast.

What caused the accident?

- Were you driving too fast? Maybe.
- Was the fog unexpected? It shouldn't have been
- Were you giving full attention to your driving? No.

The cause of the accident was all three of these things, and maybe even some other things, too. However, chances are that everything would have been okay if it hadn't been for the fog. You missed the curve because the fog made it impossible for you to see far enough ahead to observe the curve. The fog limited your visibility, made it so you could not see far enough in front of you.

What is Limited Visibility?

Visibility means range of vision or how far you can see. Limited Visibility means a lessened or reduced vision, or not being able to see as far as you normally can. Limited visibility means not being able to see clearly (or at all) parts of the road, other vehicles, pedestrians, traffic signs, and other things you need to see to be able to drive.

The following things can limit your ability to see:

- Weather.
- Traffic and the roadway.
- The car itself.

Weather--

Rain
Snow
Fog
Sleet
Hail
Blinding sun

Traffic and roadway--

Trucks, buses, and other large vehicles
Traffic conditions
Blind intersections
Blind off-street areas
Curves
Hills
Things near the roadway--bushes, trees, buildings, parked cars, etc.

The car itself--

Things pasted on windshields and windows--stickers, etc.

Road soil, bugs, etc. on windshield.

Things hanging from the rearview mirror.

Damaged or broken windshield and windows.

Curtains or shades on windows.

Door post between front and back doors which creates a "blind spot."

Passengers in the car can also block vision.

Now, What Effect Does All of this Have on your Driving?

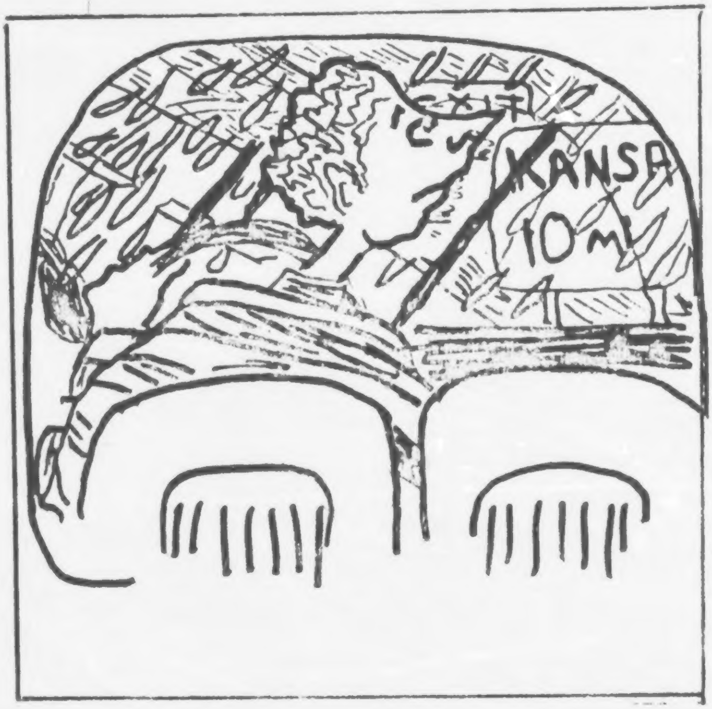
Limited visibility makes it hard for you to see far enough ahead. You might also have trouble seeing to the sides (e.g., at intersections). When this happens, you have trouble figuring out what is going on around you. You have to work especially hard when visibility is limited and be alert in order to get all the information you need to drive.

Other drivers also are having a hard time when visibility is limited. They will make errors so you have to watch out for surprises from the driver in front, in back, or next to you.

Let's discuss one example of each of the three things that limit your ability to see.

First, WEATHER

The accident described at the beginning of this LAP is an example of what can happen when the weather causes limited visibility.



If you don't know the roadway and visibility is poor, you will find yourself looking for signs to find out where you are instead of watching the roadway and other vehicles.

Second, TRAFFIC AND ROADWAY

Suppose you are driving down a road and you get behind a large truck. You can't change lanes because there are vehicles next to you, and the shoulder is on your right side. Because of the truck, you can no longer see road direction signs. You miss your turn-off, and you have to keep on going until you reach another place where you can make your turn.

Third, CAR

You are driving on a roadway and have been traveling all day. Bugs, dust, and dirt have pretty well messed up your windshield. A dog runs out from the side of the road. You don't see it until the last second. You swerve into an oncoming lane to avoid hitting the dog. Because of a dirty windshield you were unable to see the dog until it was almost too late. If there had been a vehicle in the oncoming lane, it would have meant real trouble.

Of course, several of these things can combine at one time and create a dangerous situation. You can have a dirty windshield; the sun can blind you; and other vehicles can block your view--all at the same time.

Past accident experience shows that when your visibility is limited, the chance of your being in an accident goes up. In one of the military services there were about 20,000 accidents in a four-year period. Of those accidents, 1200 were related to poor or limited visibility. It was concluded that too much or too little light was an important factor in these accidents.

In a heavy snowstorm--what can you see around you? Shapes, outlines, taillights. Fog is very much the same. In thick fog, as in snow or heavy rain, very often the only thing you can see is the edge of the road or white lane markers and the taillights of vehicles ahead of you.

Under these conditions, drivers slow down and look out--right? Not always! The California Department of Highways has measured car speeds in heavy fog. On freeways drivers do not slow down very much. Because they don't, the chance of an accident resulting in a death doubles during fog. In one study of two-way roadways, the number of accidents went down when fog was present. The reason might have been because drivers were more careful, expecting that someone might turn or stop in front of them.

In fog, snow, or any condition where you cannot see very far ahead, if you and other drivers don't slow down, a chain reaction accident involving numerous cars can result. Vehicles following you may not see that you're stopped, and they may run into the back of your car. This results in a pile-up--several vehicles involved in a reaction accident. (Most chain reaction accidents, with nine or more vehicles in the pile-up, happen in fog.)

Heavy snow, rain, sand and dust storms have a similar effect. We learn two things from this data:

1. Under limited visibility conditions you cannot see all the things you need to see to drive safely.

2. Because you can't see very well, you don't know what to expect.

ANSWERS TO EXERCISE #2: 1. Adjust sun visor and Wear sunglasses. 2. Wipe windshield with cloth and Turn on defroster. 3. Turn on windshield wipers. 4. Turn on defroster. 5. Turn on windshield wipers and Turn on windshield washer. 6. Check pavement markings and Reduce speed. 7. Check pavement markings, Reduce speed, and Turn on low beam headlights.

What to Do About Limited Visibility

So far in this LAP you have learned that a variety of conditions can limit your visibility. You have also seen that limited visibility plays a part in causing accidents. When you are faced with a situation where you can't see all you need to see for driving safely, what can you do about it?

You have two things to work with:

1. The car.
2. Yourself, especially your eyes.

The Car

In the car are the following special devices and equipment for improving visibility during periods of limited visibility:

- Windshield wipers.
- Windshield washers.
- Lights.
- Rearview mirrors.
- Windows and side vents.
- Defroster, heater, and air conditioner.
- Sun visors.

Let's discuss each one of these devices briefly.

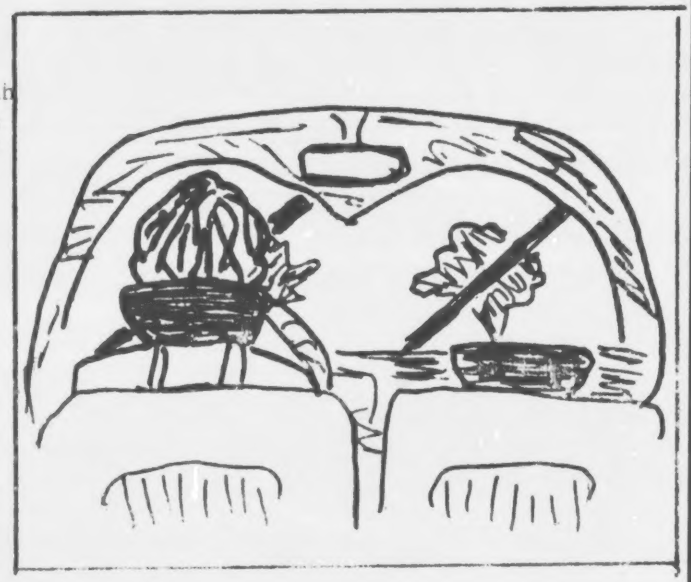
Windshield Wipers

All cars have windshield wipers. They operate at either a slow or fast speed. The control is usually a knob, to be turned or pulled, or a lever which is pushed. The control is on the dashboard, usually to the left of the steering wheel.

Wipers are most effective when the windshield is wet. If there is little or no moisture on the windshield, dirt and insects may be smeared across your line of sight when you turn the wipers on.

Windshield Washers

To clean the windshield, most cars have windshield washers. The control for the washers is usually a button or knob on the dashboard. A container under the hood holds a cleaning liquid. Pushing the control squirts the liquid onto the windshield, and the wipers clear away the dirt and wipe the glass dry.



Windshield washers and wipers operated from dashboard improve visibility when you're driving.

Lights

Headlights and taillights on cars help you to see and help others to see you. The control for the lights is usually located on the dashboard to the left of the steering wheel. The car's lights will be discussed more completely in LAP 4-3, Night Driving

Rearview Mirrors

The rearview mirrors are useful devices. They need to be kept clean and adjusted so you can see the roadway behind you. (See LAP 2-1 for discussion of rearview mirrors.)

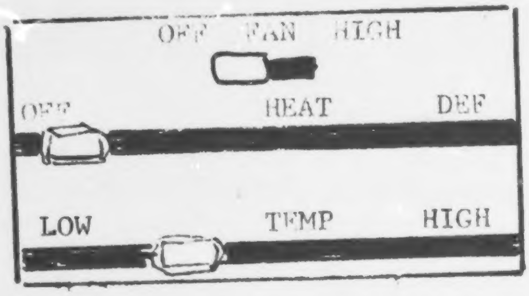
Windows and Side Vents

Opening a window or side vent when the inside of the windshield and windows is steamed up with moisture will sometimes help clear the windows faster than using just defrosters.

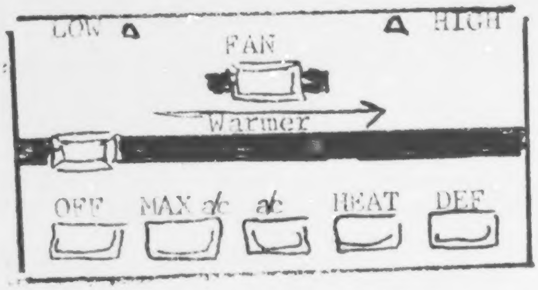
Defroster, Heater, and Air Conditioner

Most cars have defrosters and heaters, and many today have air conditioners. Two defrosters are located inside the car directly below the windhield. When the defrosters are turned on, they direct air to the windshield and help to melt ice or to dry moisture collected inside and outside the windshield. The heater fan can be turned on to get more air onto the windshield. The temperature of the air coming from the defroster can be made either cool or warm.

Check your owner's manual to see where the controls for the defroster, heater, and air conditioner are located and how to operate them.



Heater and Defroster Controls



Air Conditioner and Defroster Controls

Sun Visors

The sun visor is a little "shade" that you can pull down to cover a small area at the top of the windshield to keep the sun from blinding you. When you don't need it, you flip it back up, and it stays in position just above the windshield. The passenger side in the front seat has a sun visor, too.

Yourself

The second thing you have to work with when you can't see as well as you need to in order to drive safely is yourself, especially your eyes.

You are able to change to fit driving conditions. You know when your visibility is limited, and you can operate the controls to improve your visibility. You can see when weather and traffic and other factors limit visibility, and you can change your method of driving to allow for these factors. You can slow down, adjust the position of the car, and you can get off the road and wait for better visibility.

WHEN THE WEATHER IS BAD

Things you can do with the car to improve visibility

When there is something on the windshield or windows:

- If there is water on the windshield, turn on the wipers. Adjust the wiper speed to the amount of water or snow.
- If the water is freezing on the windshield or snow is blocking your view, turn on the defroster with warm air to melt the ice. Then use the wiper to clear the windshield. In case the defroster does not work, stop the car, roll up windows, let heater warm up windows before using wipers.
- If there is sand, dirt, insects, or road spray on the windshield, wet down the windshield with the washers. Then turn on the wipers.

Important notes:

- Do not use windshield washers during extreme cold, because the water will freeze on the windshield.
- Before you turn on wipers, make sure there is enough water on the windshield to keep the wipers from smearing, blurring, or scratching the windshield.

When there is moisture or condensation on the windshield or other windows:

- If there is moisture on the windshield, turn on the defroster. Turn on warm during cold weather and cool during mild weather. Use the heater/defroster fan to make the defroster work faster. (Note: If your car has air conditioning, use cold air to clear windshield during warm weather.)
- Open side vents or windows to allow more air on windshield.

- If moisture is very heavy, use a cloth to wipe clear. Avoid using your hand. It streaks and blurs the windshield.

- When the moisture is on the side or rear windows, wipe clear with a cloth or roll windows down and up again.

Other things to do with the car:

- When the sun is very bright, there is glare. Use the sun visors to shade your eyes. The visor is above the windshield and needs to be turned down and adjusted to block light. Sunglasses also help you to see better, but don't forget to remove them at dusk.

- Turn on low beam headlights when visibility is poor. This may not help you see any better, but it will help other drivers to see you.

Things you can do to adjust to conditions of limited visibility, (depending on how bad visibility is and what other traffic is doing):

- Slow down. Drive so you can handle anything that happens in front of you.

- Increase distance between you and anything in front of you. You need extra time and distance to plan and make maneuvers. This includes turning, stopping, or making emergency and sudden stops.

- If you cannot see well enough to locate other cars or the road, pull off the road completely and wait until visibility gets better. While stopped, keep your emergency flashers on.

- Watch carefully for other vehicles or objects on the road. Look for headlights, taillights, outlines, shadows, or movement of any kind. Watch to the front, side, and rear of the car.

- Watch for the road edge, pavement and lane markings, curbs, or a change in road surface.

- Stay in the lane that puts the greatest distance between you and oncoming traffic.

WHEN ROAD OR OTHER TRAFFIC LIMITS YOUR VISIBILITY

Things you can do with the car to improve visibility

- Keep all windows, windshields and lights clean.

- Keep rearview mirrors adjusted. When in heavy traffic, you need to be able to see fast and you don't have time to play around with mirrors.

Things YOU can do to adjust the limited visibility

- Watch other traffic. Look for clues indicating that other cars or trucks might move in front of you and block your vision.
- Avoid getting behind trucks and buses. If you do, drop back so you can see signs, stop lights, streets, or other landmarks.
- Drive in a lane that separates you most from other traffic. Keep a larger space cushion between you and other vehicles than you would under normal driving conditions.

TO KEEP YOUR CAR FROM LIMITING YOUR VISIBILITY

Things you can do with the car to improve visibility

- Remove all unnecessary stickers, blinds, and curtains from the windows.
- Remove anything hanging from the rearview mirror.
- Avoid placing objects on back window ledge or on dash. (Items placed here may either block view or reflect on windshield.)
- Do not drive a car with a damaged windshield. This means a windshield with cracks, pock marks or other things which might distort or limit your vision.
- Avoid cars with bad distortions on the edges of the windshield.

Things YOU can do to avoid limiting visibility

- Be sure you have adjusted all mirrors for the best possible view of the roadway and traffic behind you.
- Be sure defroster/heater, washers, and wipers are in good working order.
- Avoid blocking the view through any window when packing a car.
- Know your dashboard and display panel. Every make of car has a slightly different dashboard and control-instrument arrangement. If you're driving a car that's different from the one you normally drive, learn where things are on the display panel before you drive.

REVIEW REVIEW REVIEW REVIEW REVIEW

LIMITED VISIBILITY

When driving you need to be aware of things that can limit your visibility:

- Weather--rain, snow, fog, smog.
- Road and Traffic--large vehicles, blind intersections.
- Car--distorted or dirty windshield, blind spot.

Statistics show that limited visibility is a major cause of accidents. Limited visibility combines with other factors, such as driver mistakes and bad road conditions, to make accidents even worse.

To avoid getting in a dangerous situation:

- Keep your car in good condition so it does not limit your visibility.
  - --windshield and lights clean.
  - --nothing blocking windows.
  - --wipers and washers working.
  - --mirrors adjusted and clean.
- When weather limits your visibility:
  - --Use defroster, wipers, and washers to keep windshield clear.
  - --Slow down so you have time to react when anything happens in front or next to you.
  - --Watch lane markers and road edges to see where you are going.
  - --Use sun visor and sunglasses to reduce glare when sun is bright.
  - --Leave plenty of space between you and other cars.
  - --Turn on low beam headlights so other drivers can see you.
- When road and traffic limit what you can see:
  - --Slow down.
  - --Stay back so you can see.
  - --Look for hints and clues to blind alleys, driveways, intersections.

LAP 4-2

Things to Do On Your Own or in Guided Learning

If you're having problems with:	You can:
LAP 4-1 Responding to conditions of limited traction...	Watch film (16mm) "Winterproof Your Driving," and discuss with another student. This is a very short film, so you should have time in guided learning to do something else.
LAPS 4-1 and 4-2 Knowing what to do when you can't see well, or when the road is covered with snow, rain, etc...	Look at filmstrip "Good Driving in Bad Weather." Study carefully and try to answer the questions asked on the filmstrip as you watch it. Correct answers will be given. or Watch (Ford) filmstrip, "Emergency Problems," and listen to the record that goes with it.

EXERCISE #1

INSTRUCTIONS: Assume that you're the driver of the cars in the following situations. Discuss the situations and then decide how you would respond. Try to remember all the driving tasks discussed in LAP 4-2, Limited Visibility, and apply them to these situations.

SITUATION 1

It has been raining for some time, and water is standing on the roadway. A large truck in front of your car is spraying water from the roadway onto your windshield. What would you do? Why?

RESPONSE: SITUATION 1

I would: ______________________________

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SITUATION 2

Early morning fog is reducing your visibility. It's even hard to see the vehicle directly in front of you. There are a number of things you can do to compensate (help you see better)--What are they? Why should you do them?

RESPONSE: SITUATION 2

They are: ______________________________

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SITUATION 3

It's a warm, sunny day. You're having trouble seeing because the sun is so bright. There are certain things you should do when your visibility is reduced. What are they?

RESPONSE: SITUATION 3

I can: ______________________________

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SITUATION 4	RESPONSE: SITUATION 4
There are five people riding with you in your car. It's winter and you're having trouble seeing through the windshield because it's fogged up from the people's breath. What can you do to help you see better?	I can: ____________________ ____________________ ____________________ ____________________ ____________________ ____________________ ____________________
Now assume that it's warm outside, and you can't see through the windshield because the humidity has fogged it up. How should you adjust your temperature setting?	I should adjust the temperature setting to: ____________ ____________________ ____________________

EXERCISE #2

Purpose: This exercise is to give you practice in deciding what to do about problems you might have with limited visibility.

Materials Needed: Pen or pencil

Time Required: About 5-15 minutes.

Instructions: This is a matching exercise. In the left column (on the next page) are some visibility problems that you might have. In the right column are some actions that you could take to reduce the problems.

Read each of the problems (left column) and draw a line to each action (right column) that you think would be helpful.

Some problems can have more than one action, so you may need to draw more than one line for some problems.

Number one has already been done as an example.

The answers to Exercise #2 can be found on page 6.

PROBLEMS	ACTIONS
You are driving and this happens.	What action should you take to reduce the problem?
1. Blinding sunglare	Adjust sun visor.
2. Condensation inside windshield.	Wipe windshield with cloth.
3. Rain or snow on windshield.	Wear sunglasses.
4. Frost or ice on windshield.	Turn on defroster.
5. Dirt on windshield.	Turn on windshield wipers.
6. Sandstorm	Check pavement markings.
7. Fog or heavy snowstorm	Reduce speed.
	Turn on low beam headlights.
	Turn on windshield washer.

UNIT 4: Environmental Factors

LEARNING ACTIVITIES PACKAGE 4-3

NIGHT DRIVING

SAFE DRIVER COURSE

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WHAT HAPPENS IN THIS LAP

Accident records show that night driving is far more hazardous than driving during the day. In fact, the death rate for night-time accidents is more than twice the death rate for accidents occuring during the daylight hours.

In this LAP, you will learn both the ways to see better at night and the ways to make up for night driving problems. You will also learn things to check and what to look for before you drive your car at night--like checking for cracked or dirty taillights. You will find out what to do to the lights so that you can see the best and so that other drivers can see you. Then you'll learn how to handle an emergency--what to do if your lights suddenly go out while you are driving on the highway.

WHY STUDY THIS LAP

This LAP covers the procedures involved in driving at night. It teaches you the special problems you will meet at night, and the procedures you can use to solve these problems. Once you are in the car and driving at night, you won't have time to "think" about these procedures. You won't be able to take your eyes and attention away from the road. You should learn these tasks so well that you can do them without looking for switches or thinking about which light to use.

You have an advantage in driving at night--your age. The older you get the harder it is for you to see at night. Your night vision is better than your parents'. By studying the ways to see better and make up for darkness, you can use your good night vision to a real advantage in your car.

WHAT YOU NEED TO LEARN

1. Special Predriving Procedures for Night Driving.
2. Improving Ability to See.
3. Making Up For Night Seeing Problems.
4. Roadway Aids for Seeing at Night.
5. City Driving at Night.
6. Rural or Open Country Driving at Night
7. Light Failure.

SPECIAL PREDRIVING PROCEDURES FOR NIGHT DRIVING

- Check all lights.

  Frequently, check the headlights and rear lights for cracked or dirty lenses. They collect more oil and dirt from driving than you can easily see. This covering of dirt can cut their brightness in half. If they are dirty, use a dry paper towel or cloth to clean. If they are cracked, they should be replaced!

- Check windshield.

  Make sure the windshield is clean. If not, clean it with a dry cloth or paper towel. A dirty windshield will create a screen of dirt through which you will have trouble seeing. At night it will also increase the glare.

- Check rearview mirror.

  Clean the outside rearview mirror if it is dirty because it is your main helper in seeing the cars beside and behind you.

These preops can easily be done when you stop for gasoline. Then, you can check the operation of all lights and brakes, too.

Periodic Checks for Lights and Brakes

When you check the lights regularly, you keep your car ready for night driving. The few minutes you spend on checking brake lights or taillights may be more important than any other minutes in your trip.

1. Headlights.

   Check to see that both headlights are equally bright. If a light is dim, it may go out completely when you need it. Even a dim light is a hazard at night. Replace it as soon as possible.

2. Taillights.

   Taillights are needed so that others can see you at night. Check periodically to see that they work.

3. Brake lights.

   Brake lights are so important they should be part of your preop checks every time you drive, especially at night.

4. Turn Signals.

   Turn signals too are important to night driving. They should be checked every time you drive at night.

5. Dome light.

   The dome light gives you light in the car. Make it part of your light check list.

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6. Parking lights.

Parking lights are for parked cars. By turning them on, you enable other drivers to see your car when it is temporarily parked somewhere at night.

7. Instrument panel lights.

Instrument panel lights should be checked. You can adjust the amount of light you need. Replace the bulb at once if it has burned out.

Things To Do From Inside Car Before Driving at Night

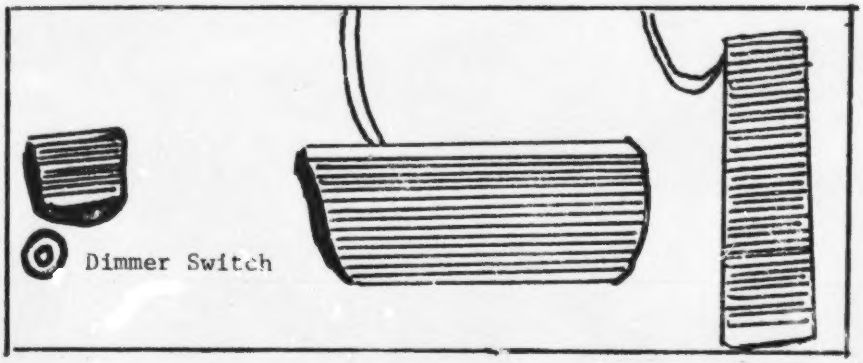
1. Turn on headlights.

It is important that you know the location of each light switch so that you won't have to search for the light switch in the dark. On most American cars it is located on the dashboard, to the left of the steering column. This switch controls the headlights, taillights, parking lights, instrument panel lights, and dome light.

Look in your owner's manual for the location of each light. Some cars have special lights for map reading. Others may have separate light switches for some of the lights. Learn your own car well enough to use the lights without looking away from the road. Especially at night!

2. Flick the headlights to low and high beam.

The dimmer switch is usually located on the floor to the left of the parking brake pedal so that you can reach it with your left foot. It switches the lights from low beam to high beam. You use low beam in the city and when you are following another vehicle, or when another vehicle is coming toward you. When you are driving on the highway, use the high beam lights, except when approaching an oncoming vehicle.



3. Tap brake to check brake lights.

Tap the brake and look through the rearview mirror to see if a red glow appears behind the car when the brake pedal is pressed. This red glow is caused by the red lights which tell you the brake lights are working. It is extremely important that your brake lights work at night because it is the only way vehicles behind you can know you are stopping or slowing down suddenly.

4. Through rearview mirror, check turn signal.

Check both left and right turn signals. You may check the left turn signal by glancing back over your left shoulder along the left rear side of the car. Look over your right shoulder at the right rear corner of the car to check the right turn signal. You should be able to see the turn signal lights flashing.

5. Adjust day/night mirror to night.

Most American cars have rearview mirrors which are adjustable for day or night use. By adjusting the mirror lever to night, you can cut down the amount of glare from the headlights of the car behind you.

6. Adjust panel lights.

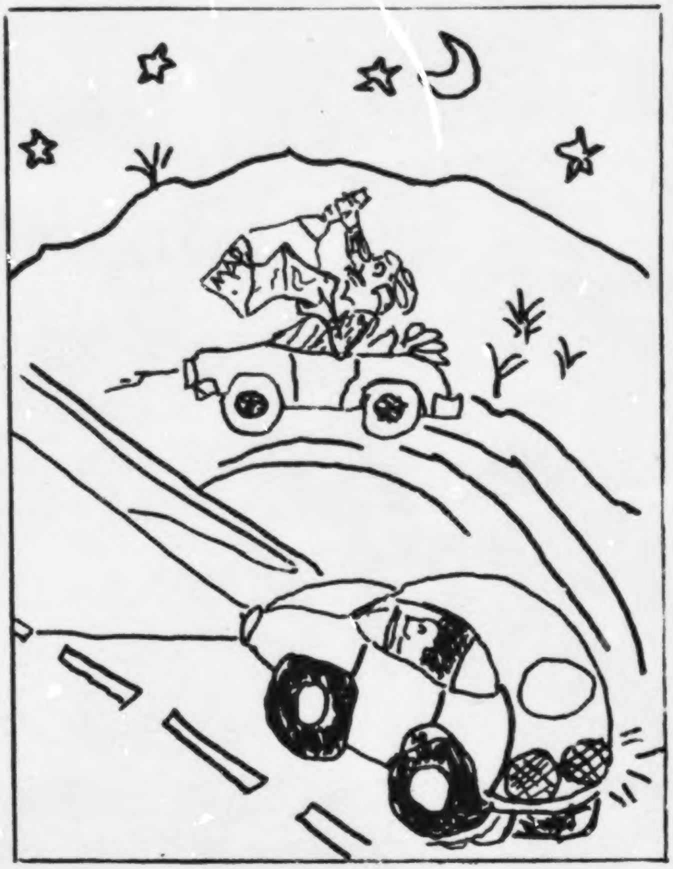
On most American cars, the headlight switch also controls the brightness of the panel lights. It usually turns to the left to turn on the panel lights. By turning the knob you adjust the brightness. These lights should be bright enough so that you can easily read the controls--but not so bright that it interferes with your vision while driving.

7. Check map or directions by dome light.

Before driving at night, it is especially important to know your route. If you haven't done so before getting into the car, turn on the dome light to check directions on map. When you know where you're going and don't have to worry about getting lost, you won't be a hazard to other drivers.

8. Turn off the dome light.

The dome light produces glare which interferes with your ability to see outside the car. Avoid driving with the dome light on. NEVER try to drive at night and check your map at the same time. Take the time to pull to the side of the road.



REVIEW REVIEW REVIEW REVIEW REVIEW

Now...a quick summary of the important preops especially needed for night driving. These preops are in addition to the day time preops which also become more important at night.

PREDRIVING PROCEDURES FOR NIGHT DRIVING

1. Check all lights, front and rear, for cracked or dirty lenses.
2. Check windshield. Make sure it is clean.
3. Check rearview mirror....Clean to see better and to reduce glare.

CHECKLIST BEFORE DRIVING AT NIGHT

1. Turn on headlights.
2. Flick the headlights to see that low and high beam work.
3. Tap brakes to check brake lights.
4. Check turn signal lights.
5. Adjust day/night mirror to night.
6. Adjust panel lights.
7. Check the map or directions by dome light.
8. Turn off dome light.

IMPROVING ABILITY TO SEE

Ninety percent of the decisions you make and the actions you take as a driver are based on WHAT YOU SEE. Unless you can see where you are going, it is natural that you can't make good decisions.

Darkness reduces your ability to see visual clues while driving. You make more mistakes in judging distance and speed. Because you see less, you have less time and less distance to avoid a collision or correct a mistake.

There are several ways to improve your ability to see at night. Each of these is discussed in detail below.

1. Slow down.

   Slow down at night to your distance of sight. This means--don't drive faster than you can see. Why? For instance, when you are driving 60 mph, you may need as much as 360 feet to stop your car. But you can see only 275 feet in front of you. So your stopping distance exceeds your sight distance. This is extremely dangerous.

   Also, at night your eyes play tricks. You can see unexpected objects only about one-half as well as you can see a familiar or expected object. So, you can see your own house or car twice as soon as you could see a strange vehicle or unexpected object in your path.

2. Wear eye glasses or corrective lenses if you have them.

   If you have prescription eye glasses or lenses, wear them. Vision defects are exaggerated at night so you may need glasses at night to correct even a minor problem.

3. Do not wear sunglasses or tinted lenses at night.

   Sunglasses or tinted lenses make things even darker. But--do wear sunglasses during the day. Wearing them during the day will help you see better at night. Why? Because, the experts say, you don't have to overcome such a difference from bright sunlight to darkness.

4. Watch for dark objects in or beside the roadway.

Being especially watchful will help you more quickly identify a stalled car, animals or other dangers in the roadway ahead. You will have extra time to respond. Always give yourself "safety room" at night.

Don't wait to positively identify an animal or car before slowing down. Animals and people are unpredictable!!! You need every second to respond to cues when driving at night. An animal and maybe even a person may panic--may run toward you or may be "frozen to the spot" right in your path. By slowing down, you give them the right-of-way and allow for their confusion or poor judgment.

Pedestrians are a real problem to night driving. Watch especially for elderly persons and children. The poor judgment of children and their quick actions give you little time to react if they move into your path. Elderly persons may be a hazard because their reactions may be very slow and they may be unable to get out of your way.

Also, be on the lookout at night for drinking pedestrians. Their judgment will be worse, their reactions slower. With all types of pedestrians follow these guidelines:

- Slow down.
- Dim your lights.
- Watch for cues to "next move."
- Prepare for emergency move.

5. Be alert.

Watch the driver ahead of you. If his brake lights go on, he's telling you to be prepared to stop.

At the first sign of drowsiness, get off the road. If there isn't another driver in the car, take a rest break. Drink coffee or soft drinks, walk or exercise for a few minutes. At night take more rest breaks than during the day. Your eyes have to work harder to see....Give them a break.

REVIEW

1. Slow down.
2. Wear your glasses; avoid wearing sunglasses or tinted lenses at night.
3. Watch for dark objects along roadside.
4. Be alert.

MAKING UP FOR NIGHT SEEING PROBLEMS

You cannot improve your ability to see at night as much as you really need to. But there are several ways to make up for the darkness.

1. Use your lights.

   Always put your headlights on at dusk. Use them at dawn, too. Always use your headlights when driving, not your parking lights. Your parking lights are to use when you are parked. They are not driving lights. As a general rule, turn on your lights when they will help another driver see you....don't wait until you need your lights to see him.

2. Drive slower at night.

   Driving slower at night not only improves your ability to see; it also makes up for darkness problems by giving you needed time to search the darkness, identify the road and cars or objects on it, and gives you added distance to swerve or stop if necessary.

3. Signal well in advance for every move.

   Tell the other drivers what to expect from your car. Signal for every turn. If you must stop beside the road, signal with your 4-way flasher. Give the other drivers the extra time they need to react to your signals.

4. Give yourself safety room at night.

   You need extra time for car movement at night.

   - Increase the distance between your car and the vehicle ahead.

   - Pull into the stream of traffic or intersection more carefully at night.

   - Pass with extra care. Be sure you have enough room to allow for passing and returning to your lane.

5. Know your route.

   A sudden, last-minute stop or turn which might be dangerous during the day is even more dangerous at night. You can overcome this by preparing your route in advance. Then if you need to consult your map or directions, pull off the road to a safe shoulder...as far as possible from the roadway. Remember, to keep from becoming a hazard while you are searching for your destination at night, know where you're going and how to get there.

6. Judging speed and distance.

The distance and speed of oncoming vehicles are harder to estimate at night. This is because your eyes have trouble judging distance at night.

Don't trust your judgment in guessing the speed of vehicles. You will probably end up looking at their headlights, which will throw your guess off completely. Driving experts say that the estimate of speed and distance at night is so bad that you should never trust your guess. Instead, allow an extra measure for safety.

7. Follow carefully--be alert.

When following another vehicle at night, give the other vehicle plenty of room. If you follow too closely, your headlights will bother the driver--even on low beam they will shine into his eyes. Be alert for signals. Remember, the driver ahead will react to what he sees--giving you a cue to what is ahead. Be especially alert for brake lights which tell you the driver is stopping for something you can't see yet.

REVIEW REVIEW REVIEW REVIEW REVIEW

MAKING UP FOR DARKNESS IN DRIVING

1. Increased caution--take more time and care in turning, stopping, passing.
2. Slow down--this gives you more time to make decisions--identify objects.
3. Be sure you can see and others can see you. Use your lights.
4. Signal well in advance. Signal for every turn. Don't make sudden or unexpected moves. Tell the other drivers what you are going to do.
5. Follow carefully--allow more space between your car and the car ahead.

ROADWAY AIDS FOR SEEING AT NIGHT

Roadways are built by engineers who plan for night problems. Highway statistics show that accidents can be reduced by good lighting and signs. Watch for these special roadway aids to help you drive safely at night:

1. Reflecting traffic signs and lights signal that you are coming to a hazard before you are near enough to read the usual type of sign.

2. Pavement markings of illuminating paint show you clearly the path for each lane. Of special importance is the center line. Do not cross it. Watch also for the double lines which identify the no-passing zones. Do not cross these lines.

3. Reflectors along curves and banks show you the edge of the road and its path ahead.

4. Flashing lights may mean temporary hazards or a traffic hazard.

CITY DRIVING AT NIGHT

Cities have special dangers in driving at night. So--

1. Double check lights.
2. Use low beam headlights.
3. Follow posted speed limits.

1. Double check lights.

With the street lights on, you may not realize that you forgot to turn your headlights on and that you are driving with no lights at all or with parking lights on. When leaving a parking area, or driveway, check your lights.

2. Use the low beam headlights.

Other drivers will be momentarily blinded by strong lights and may be unable to safely operate their vehicles. In city traffic, there is no room for mistakes. Pedestrians, too, are blinded by strong lights. A "suddenly blinded" pedestrian or animal could wander into your path, creating a serious hazard.

3. Follow posted speed limits.

Safe speeds usually are posted.

RURAL OR OPEN COUNTRY DRIVING AT NIGHT

Rural driving includes country roads with no street lights and Interstate expressways with fast speeds and heavy traffic. The most important thing about driving here is choosing a speed appropriate for the road and driving conditions. If the speed limit is 55 mph, you have the freedom and responsibility of choosing the safe speed--up to 55 mph--considering your car, the road, weather, street lights and whether you are familiar with the area.

Use High Beam Lights Unless a Vehicle is Approaching.

Unless you are following or meeting another vehicle, keep your lights on high beam so that you can see farther. When you meet a vehicle, you should operate the dimmer switch without taking your eyes away from the road.

Meeting an Oncoming Vehicle at Night

1. Use the dimmer switch to change to low beam.

   Learn your car controls well enough for you to reach the dimmer switch quickly with your left foot. Do not look at your feet. As soon as another vehicle approaches, dim your lights.

2. Slow your car.

   Even with the approaching vehicle using low beam lights, your vision is cut down greatly. So, on a two-lane road, reduce your speed to match your shorter distance of sight.

3. Signal the other driver to dim his lights.

   If the other driver is using high beam, quickly flick your dimmer switch to signal him to dim his lights. But, do not leave your bright lights on.

IF ONCOMING DRIVER DOES NOT DIM HIS LIGHTS--

- Slow down.

  You need every added advantage you can get. You sometimes can't see more than 75 feet ahead of your car if the lights are quite bright.

- Keep your lights on low beam.

  Blinding the other driver with your bright lights will mean neither of you can see. It will also reduce your vision even more.

- Don't look directly into the lights of oncoming vehicle.

  When you look directly at the bright lights of an oncoming vehicle, your vision is much worse. Your job now is to safely guide your car past this hazard. You can do this by focusing elsewhere to avoid the glare.

- Focus on the right edge of the roadway.

  Instead of looking at the glaring lights of the oncoming vehicle, look at the right edge of the road--just past the oncoming vehicle. If there is a line or stripe edging the lane, use this as a guide. You should still be able to see the oncoming vehicle and vehicles ahead.

- Keep your speed slowed until your vision has returned to normal.

  Keep your speed slow until your eyes have adjusted completely. You may travel several hundred feet before you can see clearly.

Following Another Vehicle at Night

When you drive up behind another vehicle at night, dim your lights to low beam. Reduce speed to maintain a safe distance between your car and the one ahead.

Being Followed by Another Vehicle at Night

When a vehicle comes up behind you with bright lights on, flick your dimmer switch to remind him to dim his lights. Avoid looking in the rearview mirror.

IF DRIVER BEHIND YOU DOESN'T DIM HIS LIGHTS--

- Slow down;
- Keep to the right of the road;
- Let the car pass as soon as possible.

Passing Another Vehicle at Night

Never cross the double line (no-passing zone)....This is especially important at night. Remember that your judgment is not to be trusted because of the darkness. Using extra care and the passing procedures you learned earlier, you can follow these steps to safely overtake and pass another vehicle on a two-lane roadway:

1. Dim your lights while you are behind the vehicle you are going to pass.
2. You may see a driver flick his car headlights and leave them on high beam to signal you it is clear to pass. Don't depend on their judgment. Use it as a tool. The decision to pass is still yours.
3. Search the center line for a double line which would tell you not to pass.
4. When you can see that you have room to pass, put on your left turn signal. The signals are especially important at night.
5. Enter the passing lane. Speed up quickly. Stay in the passing lane until you can see the vehicle you are passing appear in your rearview mirror.

6. As you pull alongside the other vehicle, flick your lights to bright so that you can see father.

7. Carefully guide the car back into the lane.

8. As you return to your lane, leave your bright lights on if there are no vehicles approaching or in front of you.

LIGHT FAILURES

What to Do If Your Lights Suddenly Fail

1. Flick the dimmer switch to see if lights will work on the other beam. Try the parking lights. Any light at all should help other drivers see you until you can get off the road.

2. Slow down!

3. Keep the car in its lane, but search for a place where you can pull the car completely off the roadway.

4. Look for lane markings or road signs which will guide you in keeping your car out of other drivers' lanes.

5. Gradually steer the car off the road AS FAR AS POSSIBLE and stop. Do NOT continue driving without lights.

What To Do If Your Lights Gradually Get Dim

1. Look for a service station or garage.

2. Flick the dimmer switch to see if the other beam will give you better light until you can reach a garage.

3. Do not attempt to continue driving with very dim lights. Even though you can see, other drivers cannot see you well. They may mistake you for a parked car...or even the roadside lights.

What To Do If One Light Goes Out

If one light goes out, it is very dangerous to drive at night.

Other drivers may mistake your car for a motorcycle or bicycle. Many head-on collisions have happened when a driver thought he was meeting a motorcycle instead of a car with one light out.

At night, the way to drive safely is:

1. Be prepared.
2. Drive slower than under normal conditions.
3. Make sure other drivers see you and know what you are going to do.
4. Watch more cautiously--the road, other drivers, pedestrians, and animals.

end

Things to Do On Your Own
or in
Guided Learning

If you're having problems with:	You can:
LAP 4-1 Responding to conditions of limited traction...	Watch film (16mm) "Winterproof Your Driving," and discuss with another student. This is a very short film, so you should have time in guided learning to do something else.
LAPS 4-1 and 4-2 Knowing what to do when you can't see well, or when the road is covered with snow, rain, etc...	Look at filmstrip "Good Driving in Bad Weather." Study carefully and try to answer the questions asked on the filmstrip as you watch it. Correct answers will be given. or Watch (Ford) filmstrip, "Emergency Problems," and listen to the record that goes with it.
LAP 4-3 Telling how far away cars are at night by looking at taillights...	Work in groups and use slides from night driving classroom. Try to tell how far away the cars in the slides are by looking at the taillights.

EXERCISE #1

INSTRUCTIONS: Assume that you're the driver of the cars in the following situations. Discuss the situations and then decide how you would respond. Try to remember all the driving tasks discussed in LAP 4-3, Night Driving, and apply them to these situations.

SITUATION 1

It's nighttime and you want to drive to a friend's house. What should you do before you pull off from the curb? Why?

RESPONSE: SITUATION 1

I should: ____________________

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SITUATION 2

You've just left a movie theater in the city. The roadways and sidewalks are pretty well lit, since the street lights in this area are bright. You're about to leave your parking space. There are two major things you should do, since you'll be driving in the city--what are they? Why should you do them?

RESPONSE: SITUATION 2

They are: ____________________

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SITUATION 3

You have your high beam headlights on, since you're driving in the country and it's hard to see the roadway. You can see an oncoming vehicle with its high beam headlights on in the distance. You slow down and change from high to low beams. The other driver, though, still has his high beam headlights on. How do you signal him to change to low beams, and what should you do if he doesn't?

RESPONSE: SITUATION 3

I signal him by: ____________________

____

If he won't change to low beams, I should: ____________________

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SITUATION 4

You're driving on a two-lane roadway in the country and you're having trouble seeing since there isn't enough lighting on the roadway. You know that there's a car in front of you, since you can see his taillights. And you're pretty familiar with the area, so you know there are a lot of dirt side roads and farmhouses along this roadway. There are certain things you can do to help you see better. What are they and why should you do them?

RESPONSE: SITUATION 4

They are: ______________________________

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SITUATION 5

You're driving down a poorly-lit four-lane highway at about 55 mph and your headlights fail. What should you do?

RESPONSE: SITUATION 5

I should: ______________________________

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EXERCISE #2

Purpose: This exercise is to help you know the effects of glare inside the car at night. It will also help to show you the effects of using your high beams while driving.

Materials Needed:

A car
Suitable location (described below)
Helper (friend, parent, etc.)

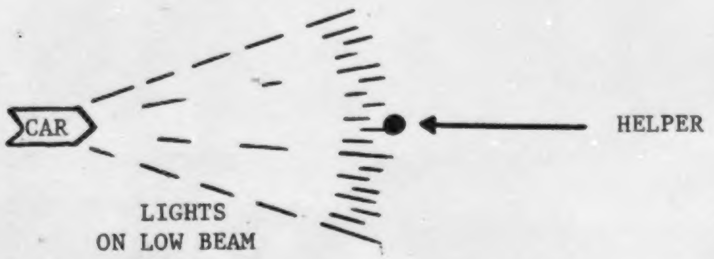
Time Required: About 30-60 minutes

Instructions: This exercise must be done when it is dark outside.

1. First find a suitable location for the exercise. In order to do this exercise, you will need to find a place where the space in front of the car is clear for several hundred feet ahead. You also want to find a place where it is fairly dark. An unused, unlit, parking lot might be a good possibility. A street with few cars parked along the side might be another option, if there are no street lights to interfere with the exercise. In any case, be sure you don't select a place that is in the flow of traffic.

2. After you have found a suitable place to do the exercise, stop the car. Turn off the engine and place the car in park, but leave the headlights on. Be sure the headlights are on the low beam. Turn off all of the lights inside the car. This includes any dome or reading lights as well as your instrument lights. A summary of all of these steps is given at the end of this exercise.

3. Next tell your helper to walk straight ahead of the car. Your helper should walk away from the car until you can just barely see him or her. When your helper gets to this point, honk the horn once. This will be a signal for your helper to stop just at that point where you can barely see him or her. The situation thus far is shown in the illustration below.



4. Now with your helper still standing in the same place, turn your instrument panel lights all the way on. What has this done to your ability to see your helper standing in the distance? Why? Now turn on your dome light. What has happened to your ability to see your helper after you have done this? Why?

5. Turn the dome light back off. Try to adjust the instrument lights so that you can see the instruments *and* also see your helper standing in the distance.

6. As a last step in this exercise, turn on your bright lights. If your lights are aimed properly, notice the increased ability to see your helper. Honk your horn once as a signal for your helper to return to the car. If your helper is also a student in this safe driver course, you might change places and give him or her a chance to experience these things. Then discuss the entire exercise together.

Signature of Helper ______________________

EXERCISE #2, LAP 4-3

SUMMARY

A. FIND A PLACE

B. TURN OFF ENGINE

C. PUT CAR IN "PARK"

D. PUT HEADLIGHTS ON LOW BEAM

E. TURN OFF ALL LIGHTS INSIDE CAR

F. HELPER WALKS UNTIL BARELY VISIBLE--HONK ONCE

G. TURN ON INSTRUMENT LIGHTS ALL THE WAY

H. LOOK FOR HELPER

I. TURN ON DOME LIGHT

J. LOOK FOR HELPER

K. TURN OFF DOME LIGHT

L. ADJUST INSTRUMENT LIGHTS

M. TURN ON BRIGHT HEADLIGHTS

N. HONK FOR HELPER TO RETURN

LEARNING ACTIVITIES PACKAGE 4-4

STRESSES ON THE CAR AND DRIVER

SAFE DRIVER COURSE

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WHAT HAPPENS IN THIS LAP

In this LAP you will learn about the pressures and stresses that interfere with safe driving. These pressures and stresses affect you or the car or both. An example of a car stressor is an engine that is overheating. A passenger that talks too much is an example of a driver stressor. In this LAP, you will learn what these stresses and pressures are and how to handle them.

WHY STUDY THIS LAP

Sometimes driving a car is fun. Other times it is plain hard work, with lots of pressure because of traffic or a car that isn't working right, and many other factors. You must learn how to operate the car when the "pressure's on"--how to operate it safely. You must learn to cope with bad weather, noisy passengers, boredom, thoughtless drivers, and many other things, while still operating the car safely.

WHAT YOU NEED TO KNOW

A. Stresses on the car

Environmental conditions

- Hot weather
- Cold weather
- Wind
- Steep upgrades

Extra equipment and heavy loads

- Loads inside car
- Loads on top of car
- Towing a trailer

B. Stresses on the driver

Boredom
Noise
Loads inside car
Environment inside car
Distractions from passengers

STRESSES ON CAR AND DRIVER

Whether you drive on city streets or country roads, at night or in the daytime, there are many things which can take your mind off driving. Maybe you're tired or haven't had enough sleep. Maybe the passengers in your car are arguing or moving about too much. Maybe your car is overheating, or you think you have a flat tire. These are some of the stresses and pressures that every driver faces almost every time he drives. They make you tense or worried. The result may be that you do not give your full attention to driving.

These stresses can be divided into two broad areas:

- Stresses on the car.
- Stresses on the driver.

In the following material each of these will be discussed in detail.

STRESSES ON THE CAR

Stresses on the car affect the way the car performs. They cause the car to operate differently from the way it would under normal conditions. Categories of car stresses are:

1. Severe environmental conditions
2. Extra equipment and heavy loads

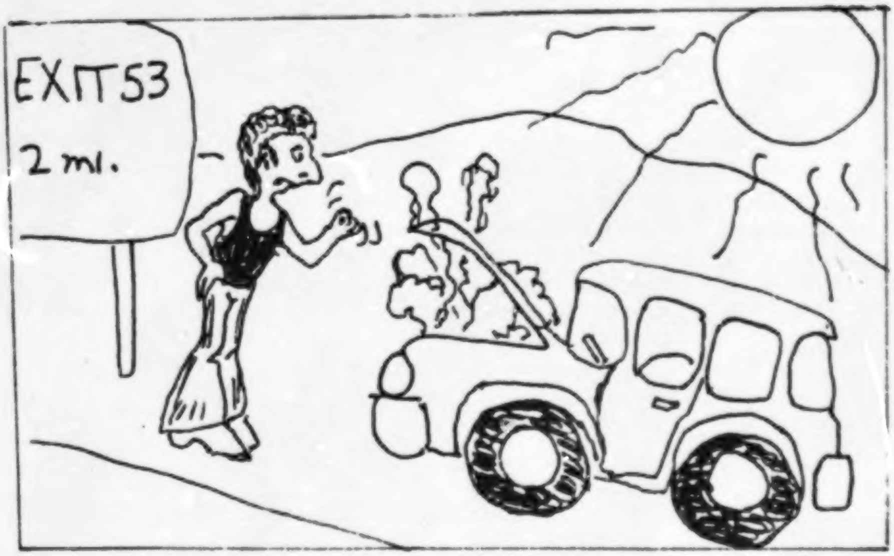
SEVERE ENVIRONMENTAL CONDITIONS

Environmental conditions are mostly weather--heat, cold, water, wind. When weather is fairly normal, a car will usually perform satisfactorily. When weather is extreme--too hot, too cold, too wet, too windy--the car may not operate properly. You must watch for indications that the car is not functioning properly when you're driving in extreme environmental conditions.

- In hot weather--
    - Watch temperature gauge.

      Watch the temperature gauge during extreme heat for signs that the engine is overheating. Attend to this problem before the engine is damaged.

- Avoid driving at high speeds for long periods.



Avoid driving at high speeds for long periods of time during hot weather. High speed causes excessive tire wear, increases the chances of a blowout, and adds to the danger of the engine overheating. After a long drive during very hot weather, let the engine idle a few minutes before you turn off the ignition. This helps to prevent vapor lock and will make the engine easier to start again.

- Take steps to help keep engine running cool.

You can help maintain a good circulation of air in the engine by:

  - Shifting to Low when driving slowly in heavy traffic.
  - Racing the engine slightly with the gearshift lever in Neutral when at a standstill in heavy traffic. This makes the fan turn faster and cools the engine better. Racing the engine slightly also helps to keep the engine from stalling.

- In cold weather--
  - Watch temperature gauge.

Even though you add antifreeze for winter driving, cold air while you're driving makes the radiator much colder than you think. Check the temperature gauge as you drive in extreme cold. If the liquid in the radiator freezes, it won't flow to cool the engine. And you have the same problem you have in hot weather: Your engine overheats.

- Avoid getting low on gasoline.

  Keeping the fuel tank nearly full will prevent too much moisture from forming in the gasoline tank. Too much moisture can freeze and block the fuel lines. In this event, the car will not start until the ice in the fuel line has thawed.

- Remove moisture from all glass inside car.

  Turn on the defrosters or open a window a little to get rid of the moisture (condensation) that forms on the inside of the windshield and windows. Remember--don't use your hand to remove moisture. This leaves a greasy film that makes visibility worse. Don't try to drive until the condensation has been removed.

- Avoid using parking brake.

  The parking brake should not be used during extremely cold weather. If it is applied, the brake linings may freeze to the brake drum, which makes it hard or nearly impossible to release the brake. After you stop the car, shift to Park to keep the car from moving.

  If the parking brake should freeze, back the car for a few feet. Then try to release the brake. Don't try to move forward until the parking brake is unstuck. If you try to move forward when this problem still exists, you may seriously damage the automatic transmission.

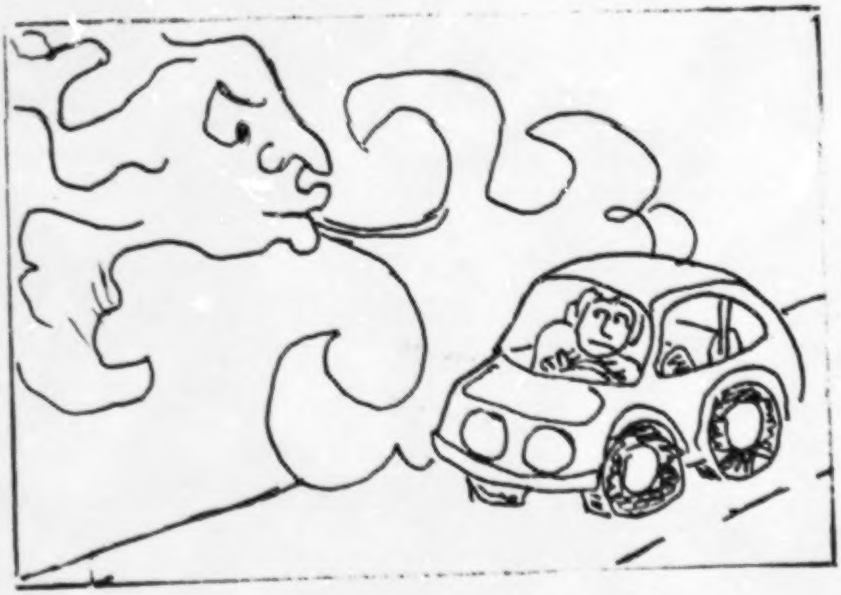
- Test brakes.

  If it's cold and the road surface is wet, test your brakes once in awhile by pumping them lightly. If they are wet, the car may tend to pull to the left. By tapping the brake pedal every so often you can help keep the brake linings dry.

  It's a good idea--if freezing rain is falling when you stop driving, take the time to put a piece of cardboard or something similar under the wipers to prevent ice from forming on the windshield.

In a crosswind (a wind that blows from the side), it is harder to steer the car.

Grasp the steering wheel firmly and slow down to keep the car in the correct lane position.



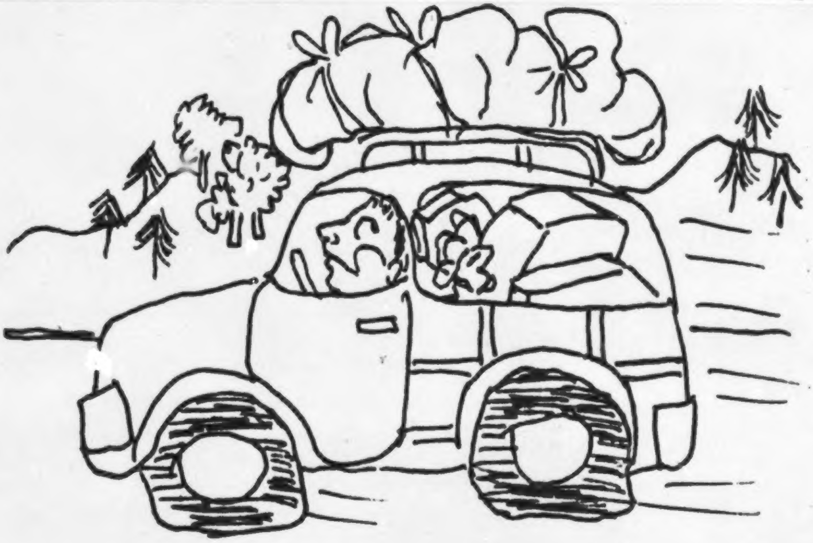
The wind will play tricks on you when you drive past large buildings, large vehicles, or through canyons and hills. Be ready to adjust your steering to the changes in the force of the wind when meeting these situations in the driving environment. Large structures--buildings, bridges, etc.--can cause the wind to stop or start suddenly or change direction.

- Steep upgrades--

Your engine may overheat on long, steep upgrades. Watch your temperature gauge when you're climbing a hill. It will tell you if your engine is getting hot.

AUXILIARY EQUIPMENT AND HEAVY LOADS

Auxiliary equipment means extra items that are not part of the car--like boats, trailers, campers, and other pieces of equipment you tow behind the car.



Many accidents occur when vehicles are heavily loaded or are towing a heavy load. Heavy loads in or on top of the car or equipment being pulled behind the car put stress on both the car and the driver.

When you haul a heavy load or tow a trailer, the following points will give you some help in driving safely:

- Be sure your visibility is clear. Don't block your view through the windshield or rear window.
- Your car handles differently. (Acceleration may be slow, etc.) Get the "new" feel of the car when it is heavily loaded.
- Secure the load well.
- Tires should be inflated more.
- Avoid making quick movements.
- You need more following distance.

- Loads inside car.

  A heavy load inside the car causes some changes to take place:

  - It changes the way the car is balanced, and this makes the car handle differently. You will need more time and more space for doing the basic driving tasks, like accelerating, turning, slowing, and stopping.
  - It changes the car's passing behavior because, with a heavier load, your car has less pulling power. So it takes you longer to overtake and pass another vehicle.

These specific movements will be different, depending on the size and weight of the trailer or load you are hauling. While getting the feel of the car's control, drive cautiously.

These checks will improve your car's handling ability and your safety when hauling a heavy load:

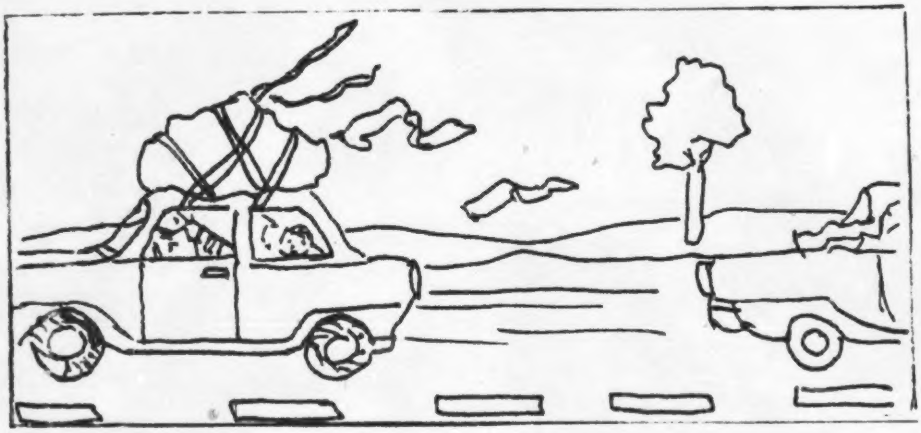
.. If necessary, re-arrange the load to get an even placement of weight. Excessive weight in the rear will raise the front end of your car. At night this may cause your low-beam headlights to "blind" other drivers.

.. Keep checking to see that objects are not moving and shifting about.

.. If objects stick out from the back of the car, tie a red flag (or light, for night driving) at the end of these objects as a warning to following vehicles.

.. Don't block your rear or side vision--or your vision anyplace, for that matter.

. Loads on top of car.



Loads on top of the car are constantly windblown; so check often to see that everything stays well fastened. Even a small object (see above) that gets loose and flies off can be dangerous to a vehicle behind you.

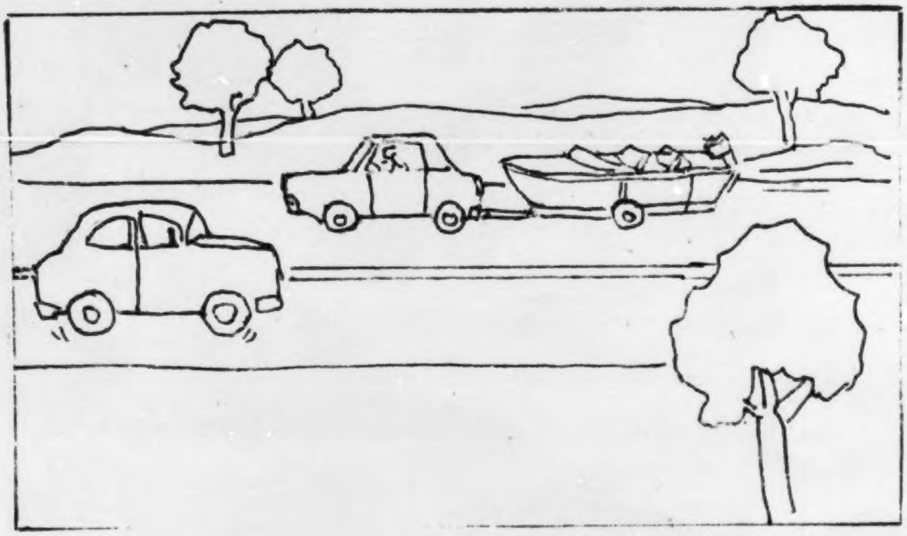
When you have a load on top of the car:

.. Drive more slowly than normally.
.. Be alert to sudden problems with steering control.
.. Check the load on top of the car to see that it stays securely fastened.

SUMMARY: HAULING HEAVY LOADS

1. Don't overload the car. Too much weight can cause mechanical damage to the car.
2. Watch the temperature gauge for signs that the engine is overheating.
3. A heavily-loaded car handles differently. Get to know how your car acts when it is carrying or towing a load.
4. Allow for greater stopping distance.
5. Avoid quick movements--quick steering movements, quick brake movements, etc.
6. Carry more air in your tires.
7. Make sure the load is securely fastened, whether inside or outside the car.
8. Don't block your view in any direction with people, boxes, or anything.
9. Stop and re-arrange the load if your headlights appear to bother oncoming drivers.
10. Tie a red flag (light at night) to objects that extend beyond the rear of the car as a warning to other drivers.

- Towing a trailer.



Additional driving skills are needed when pulling a heavy trailer equipped with a separate set of brakes, or when pulling a boat and carrying trailer, or a camper, or any kind of heavy auxiliary equipment.

The added weight reduces the power of your engine. Pulling power, passing power and acceleration power are less.

Things to Keep in Mind When Towing a Trailer

- Correct acceleration.

  Acceleration will be difficult because of the weight you're pulling. When you accelerate with a trailer behind you:

  - Start slowly.
  - Increase your speed gradually, smoothly.

- Correct speed.

  The added length and weight of the equipment you're operating need much more distance for stopping, so your speed should be slower than it would be without the trailer. Watch for posted speeds for vehicles towing trailers.

- Positioning car and trailer within lane.

  Drive closer to the right side of the roadway when pulling a trailer. Passing vehicles need the added safety area if your trailer sways.

- Checking trailer.

Check to make sure that everything is okay with the trailer--hitch, tires, brakes, lights. If you're renting a trailer, find out how to do these things before driving.

- How to brake when trailer sways.

Side-to-side sway indicates that you are going too fast and should slow down. If the trailer starts to sway, use the trailer brakes lightly to lessen the motion. If the trailer doesn't have separate trailer brakes, tap the car's brake pedal very gently.

- Increasing following distance.

You need more stopping distance when you're towing a trailer. You cannot stop suddenly or the trailer may go out of control and jackknife or swing to the side. Allow longer following distances when pulling a trailer so that you have room to stop.

- Passing a slower vehicle.

If you feel you must pass another vehicle while you're towing a trailer, allow extra time and distance to make up for the slower speed and the longer length of your car and trailer. When returning to the driving lane--REMEMBER--you need a lot more space because you have a lot more equipment to take up space.

- Being passed by another vehicle.

When another vehicle passes you, you may get a blast of wind which severely affects your ability to control the car. Keep as far to the right of the roadway as you can. This will reduce the effect of the wind force as the vehicle goes around you. It will also give you extra room in the event the trailer sways as the vehicle goes by.

- Driving on long steep upgrades and winding roads.

Use the right-hand lane or auxiliary climbing lane on long steep upgrades and winding roads. If you're holding up traffic behind you and the roadway is hilly for some distance look for a safe place to turn off to let the traffic go by. Make sure you can get the car and trailer completely off the road.

- Driving on long steep downgrades.

Use your good common sense in this situation. Apply all the don'ts as if you were driving a car with nothing behind it--don't coast; don't go too fast, etc.

- Going around curves and corners.

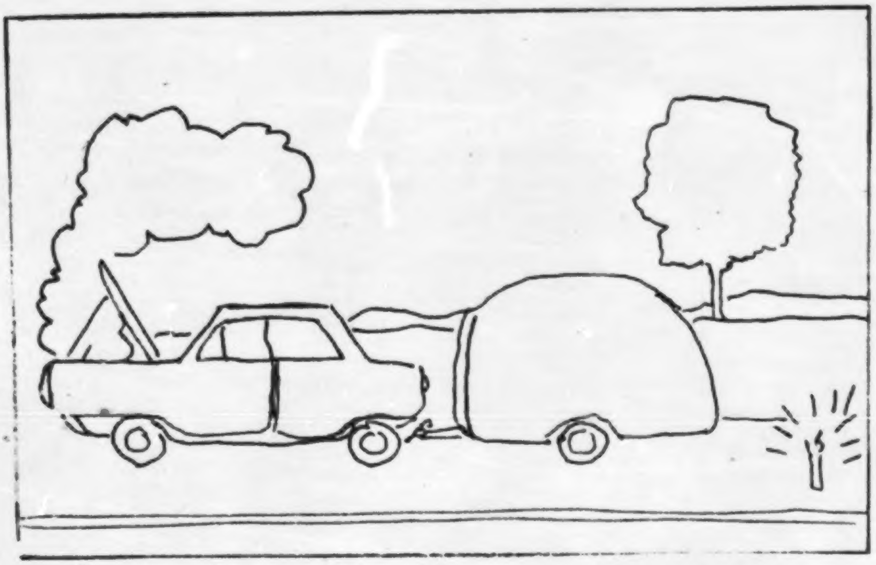
In getting acquainted with your trailer, get to know the path the trailer will make in turning corners or going around curves. Approach curves and corners at a slower speed and allow enough turning room and distance to avoid going over the curb or jackknifing.

- Driving in strong winds.

  In some cases, strong or gusty winds are so bad that you may have to pull off the roadway and stop until the winds die down. If the wind is not too bad and you are able to keep control of the car and trailer, continue driving but reduce speed and keep as far to the right side of the roadway as possible.

- Slowing or stopping.
  - Come to a stop slowly.
  - Allow greater stopping distance. As you learn the behavior of your car and trailer, you will be able to determine how much more distance you need. Until you are sure how much space you need, give yourself too much instead of too little.
  - Apply the brakes gradually, using a light tap...then pause... then tap again--to slow the car. DON'T SLAM ON THE BRAKES. You may jackknife.
  - If the trailer has its own brakes, apply them lightly and quickly--in an on-off motion, just before you touch the car brakes.

...AND...



When you pull off the roadway, place flares (or red flags) behind the trailer to warn following vehicles.

- Backing a trailer.

These general guidelines will help you learn how to back the trailer safely.

- Use extra caution. Your visibility is reduced and your ability to move the car is also reduced when you have a trailer on the back of your car.
- Check to see if the roadway is clear.
- Back slowly and gradually.
- If you're turning as you back, you must turn the steering wheel in the opposite direction from the way you want the trailer to go. This takes practice, since you're turning the steering wheel in the opposite direction from the way you would back your car without the trailer.
- Avoid sharp turns or the trailer could jackknife.

REVIEW REVIEW REVIEW REVIEW REVIEW

TOWING A TRAILER

1. Start slowly--accelerate slowly.

2. Drive more slowly than you do when you don't have a trailer. Observe trailer speed laws.

3. Keep to the right of your lane.

4. Stop frequently to check the trailer's hitches, safety chains, lights, brakes, and tires.

5. Slow down and move to the right when meeting large vehicles.

6. Brake slightly if the trailer starts to sway.

7. Increase following distance.

8. Observe all precautions when you overtake and pass a slower vehicle:

   - Allow for plenty of room to pass.
   - Check distance behind and ahead.
   - Check oncoming traffic.
   - Avoid sudden changes in lanes; move gradually into a new lane.
   - Leave extra lateral (side) room--for safety and for space for your trailer to sway.

9. When being passed, leave room ahead for the passing vehicle; keep as far to the right as possible.

10. On upgrades, keep as far to the right as possible. Look for a place to pull off the roadway if traffic begins to pile up behind you.

11. Use LOW gear and keep as far to the right as possible on long steep downgrades.

12. Take corners and curves slowly, allowing yourself more time and distance.

13. In strong wind, slow down and keep to the far right of lane; or pull over and stop until wind subsides.

14. When backing the trailer, use extra caution because your visibility is impaired. Turn the steering wheel in the opposite direction from the way you want the trailer to go.

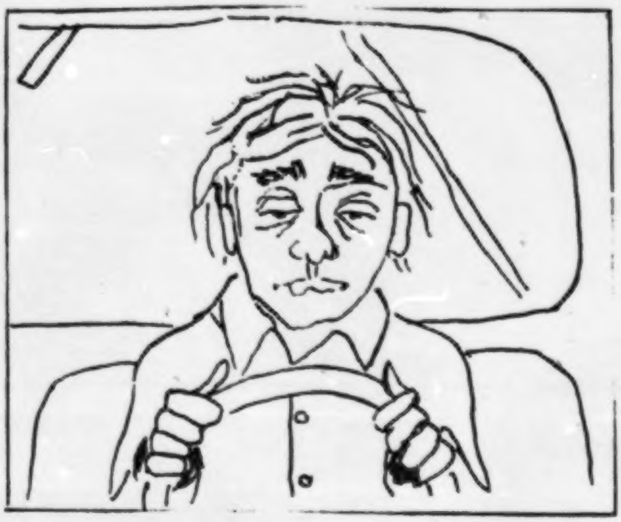
STRESSES ON THE DRIVER

Stresses on the driver are the pressures and tensions caused by himself or other people. You must learn to adjust your driving behavior to make up for the stresses that can affect your ability to drive safely.

Some of the stresses on a driver are discussed in the following material. Other stresses (e.g., emotions) will be discussed in LAP 6-1.

- Boredom.

  Driving at high speeds on a flat, straight road can be boring and monotonous. And it may tire you out faster than a curvy or hilly road that keeps you on your toes and demands your full attention.



- Noise.

  Keep the radio low enough so that you can hear cues from the driving environment--like the sound of a horn, or the siren of an ambulance.

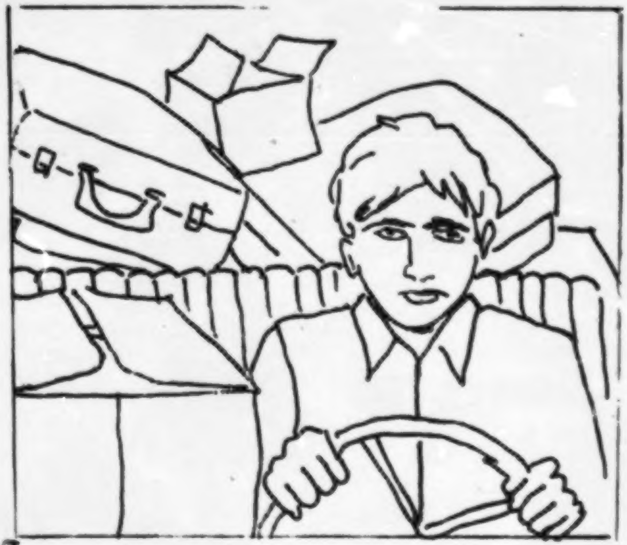
  Don't let conversation among or with passengers take your attention away from the road. When talking with passengers, look at the roadway, not at the person you're talking with.

- Loads inside the car.

  Be sure that loads do not interfere with your visibility or control of the car.

  Be sure you can see clearly through the windshield, rear window, and side windows at all times.

  Check to see that you can easily reach and operate all of the controls.



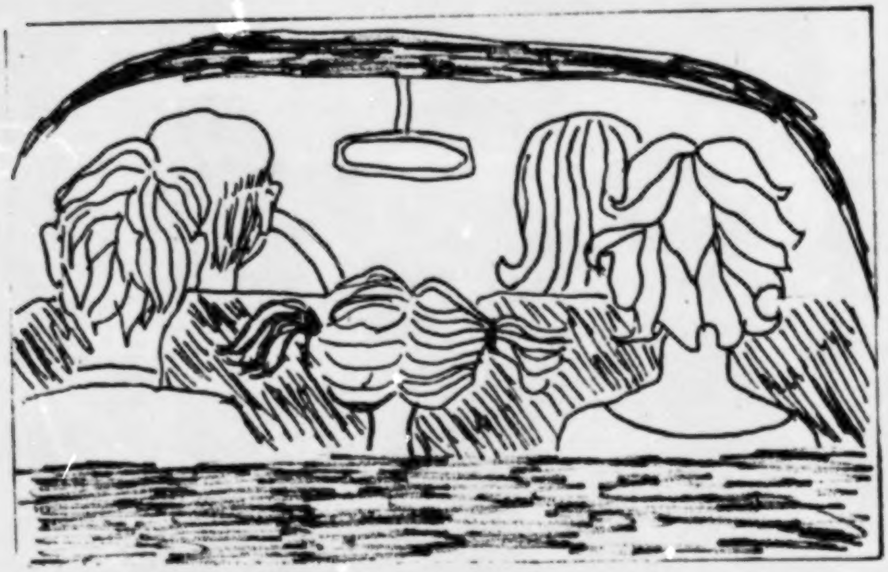
- Environment inside the car.

Open a window or air vent if heat or cigarette smoke becomes uncomfortable. Keep the temperature inside the car comfortable by using the heater, air conditioner, etc.

- Passenger distractions.

A distraction is something that takes your mind off what you're doing--like children climbing over car seats, or an interesting conversation. As the driver, you cannot afford to let yourself be distracted by anything.

  - Avoid being distracted by conversation going on with your passengers.
  - Avoid letting too many people ride in the car. Don't have more than two passengers in the front seat.



  - Arrange seating in the back seat so that the tall passengers are on the sides. This gives you a clear view through the back window.

- Driving with children.

Children are less distracting and less trouble when they are safely hooked in their safety restraints.

SUMMARY

STRESSES ON THE DRIVER

1. When you are tired or sleepy, driving puts even greater pressure on you. Take rest breaks frequently.
2. Keep noise down--radio and conversation low enough for you to note cues from the driving environment.
3. Seat passengers so they do not interfere with your vision or operation and control of the car.
4. Keep the temperature inside the car as comfortable as possible.
5. Don't have too many passengers in the car.
6. Don't let yourself be distracted by the passengers. If necessary, tell them you're the driver and therefore, the "boss."
7. Keep children and infants in safety restraints--and, of course, yourself and other passengers as well.

(end)

Things to Do On Your Own
or in
Guided Learning

If you're having problems with:	You can:
LAP 4-1 Responding to conditions of limited traction...	Watch film (16mm) "Winterproof Your Driving," and discuss with another student. This is a very short film, so you should have time in guided learning to do something else.
LAPS 4-1 and 4-2 Knowing what to do when you can't see well, or when the road is covered with snow, rain, etc...	Look at filmstrip "Good Driving in Bad Weather." Study carefully and try to answer the questions asked on the filmstrip as you watch it. Correct answers will be given. or Watch (Ford) filmstrip, "Emergency Problems," and listen to the record that goes with it.
LAP 4-3 Telling how far away cars are at night by looking at taillights...	Work in groups and use slides from night driving classroom. Try to tell how far away the cars in the slides are by looking at the taillights.

EXERCISE #1

INSTRUCTIONS: Assume that you're the driver of the cars in the following situations. Discuss the situations and then decide how you would respond. Try to remember all the driving tasks discussed in LAP 4-4, Car/Occupant Stressors, and apply them to these situations.

SITUATION 1

You're driving on a long stretch of flat roadway. It's very windy and as you pass large trucks and high buildings, you have to make steering corrections. There are a number of things you should do when driving in a high steady crosswind--what are they?

RESPONSE: SITUATION 1

They are ______________________________

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SITUATION 2

It's 95°. What should you do when driving in extreme heat? What might happen if you don't?

RESPONSE: SITUATION 2

I should ______________________________

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SITUATION 3

A friend needs some help moving to a new house. You offer to haul a load of furniture in a trailer hooked up to your car. What should you do before driving and what should you remember to do while driving? Why?

RESPONSE: SITUATION 3

I should ______________________________

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SITUATION 4

You're driving behind a slow-moving vehicle and pulling the trailer described in Situation 3. You want to pass. What should you do and why?

RESPONSE: SITUATION 4

I should ______________________________

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SITUATION 5

You're taking your younger brother and three of his friends to a party. What should you do before starting the engine? Why?

RESPONSE: SITUATION 5

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